DCN 1275

DEPARTMENT OF THE ARMY
CENTRAL REGION, U.S. ARMY AUDIT AGENCY
12140 WOODCREST EXECUTIVE DRIVE
ST. LOUIS, MISSOURI 63141-5046

REPLY TO
ATTENTION OF

SAAG-CER (36-5e)

08 AUG 1994

MEMORANDUM FOR Commander, U.S. Army Aviation Technical Test Center, ATTN: Test Support Directorate, Plans and Security Division (Mr. Roy Miller), Fort Rucker, Alabama 36362-5276

SUBJECT: Review of Data Furnished to DOD Cross-Service Work Groups -- INFORMATION MEMORANDUM CR 94-707

1. **Introduction.** This is the report on our review of the data your command provided for the test and evaluation data call for the DOD cross-service work group. The Director of Management requested the review. We will include results in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group, DA, and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished DOD cross-service groups, we:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures used by U.S. Army Aviation Technical Test Center personnel to respond to the cross-service group data call.

- Interviewed personnel from the center's Test Support Directorate and Public Works Directorate, who helped prepare, review, and validate responses to the data elements.

- Tracked responses to data elements to supporting documentation including aeronautical charts, technical bulletins, physical descriptions, architectural and engineering drawings, accounting databases, and our own database files compiled on the center's raw data.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background.**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum dated 7 January 1994 established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service Base Realignment and Closure actions. Those work groups focus on:

- Medical treatment facilities and graduate medical education centers.

- Test and evaluation facilities.

- Laboratory facilities.

- Undergraduate pilot training.

- Military depot maintenance activities.

- Economic impact.

Each of the work groups prepared a data call requiring activities to provide general information needed to assess and identify cross-service opportunities.

b. **Army Process.** The Chief of Staff, United States Army issued a 21 March 1994 memorandum implementing Office of the Secretary of Defense guidance and providing procedural instructions for Army data calls. Army guidance required responses from each activity identified in the cross-service data calls. Activities were to furnish these responses to their major commands. The major commands

provided certified data to the Army Basing Study Office. The Army Basing Study Office was to then provide data to each of the cross-service work groups. This memorandum addresses your command's response to the Army Basing Study Office for the test and evaluation data call.

c. **Test and Evaluation Data Call.** The test and evaluation data call consisted of 94 data elements. The data elements included a mix of objective and subjective information about the center's mission, workload, and facilities. These questions were developed by the cross-service group to identify excess capacity and other cross-service opportunities.

The center reports to U.S. Army Test and Evaluation Command which was subordinate to Army Materiel Command. We evaluated the accuracy and supporting documentation for 22 of the 94 data elements. We reviewed the 22 data elements that focused on excess capacity, workload, and facilities.

4. **Results of Review.** Overall, data provided by the center was generally accurate. The center reported accurate data for 15 of 22 elements and the following results for the other elements:

- Data reported on the data call was found to be inaccurate for three elements.

- Data responses were revised for three elements after initial conferences with Army Audit. (Note: We did not view these responses as inaccurate, but as differences in interpretations.)

- One data element was determined to have insufficient supporting documentation.

Details on the elements we reviewed and differences noted are in the annex. Conclusions on specific objectives follow:

a. **Accuracy of Reported Data.** The center reported accurate data for 15 of the 22 elements we reviewed. Reported data for seven elements included errors, omissions, or interpretation differences.

(1) **Accurate Data.** The center reported accurate data for 15 of the elements we reviewed. We didn't identify any discrepancies in data reported for:

- Forecasted workload by program element (2.1.B.1.).
- Forecasted workload by functional areas (2.1.B.2.).
- Specified role in approved war plan (2.3.A.).
- Limitations imposed by environmental/ encroachment considerations (3.1.C.1.).
- Test missions canceled due to commercial use, public use, or encroachment (3.1.C.5.A. and 3.1.C.6.).
- Facility equipped for secured operations (3.1.E.3.).
- Description of topography, ground cover and vegetation (3.1.H.1.).
- Test restrictions due to bad weather (3.1.H.10.).
- Description of airfield and support facilities (3.2.B.1.).
- Types of air vehicle testing that can be supported (3.2.C.1.).
- Maximum number of simultaneous missions requiring telemetry that can be performed (3.2.C.6.).
- Maximum number of simultaneous threats that can be simulated (3.3.A.2.).
- Size, weight, or other limitation on test operations the facility can support (3.3.B.1.).
- Type of directed energy weapons tested (3.4.A.1.).
- Area (square miles) available for the testing of rockets, missiles, and bomb systems (3.4.B.1.A.).

(2) **Inaccurate Data.** Data reported for three elements included mistakes.

- Capital improvements underway or approved for 1995 5-year development plan (3.1.E.4.).

- Air, land, and sea space (square miles) available to support test operations (3.1.G.1.).

- Maximum straight-line segment in air space (nautical miles) (3.1.G.7.).

(3) **Interpretation Differences.** Data was reported for three elements that were subsequently revised by command. Command had interpreted the data call requirements differently than Army Audit personnel. After our initial meeting, command agreed with our interpretation and revised the data call.

- Facility Condition (MV II) - Measure of Merit. Replacement cost of installation (3.1.B.).

- Special aspect of installation that would allow for an expansion of missions performed (3.1.E.1.).

- Availability of airspace, land, or water areas adjacent to areas under DOD control (3.1.E.2.).

b. **Supporting Documentation.** The center maintained sufficient supporting documentation for 21 of the elements reviewed. At our request, additional documentation is being accumulated to support responses for one of the elements reviewed -- unconstrained capacity (2.2.A.).

c. **Compliance With Cross Service, DA, and Major Command Guidance.** Generally, the center gathered and reported data consistent with cross-service work group, DA, and major command guidance. The center complied with all upper level guidance when responding to the data call. In addition, the center's commander certified that the data was accurate to the best of his knowledge.

5. **Discussion of Results.** We discussed the results of our review with Mr. Roy L. Miller, Chief of Plans and Security Division on 1 July 1994. He agreed with our conclusions and said that action had been or would be taken to correct and retransmit inaccurate data element responses to Test and Evaluation Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

for RAYMOND L. MCCAULLEY
Regional Auditor General

CF:
Inspector General, Department of Defense
Army Basing Study Office
U.S. Army Test and Evaluation Command

Audit of Data Furnished to DOD Cross-Service Work Groups
BRAC 95 - Data Call No. 7
U.S. Army Aviation Technical Test Center (ATTC)
Cairns Army Airfield
Fort Rucker, Alabama

Ref. No.	Datacall Ref.	Data Call Description	ATTC Initial Response	USAAA Verified	Explanation of Difference
1.	2.1.B.1	Forecasted Workload	Air Vehicles - 36 Armament Weapons - 7 Electronic Combat - 8	Air Vehicles - 36 Armament Weapons - 7 Electronic Combat - 8	No differences noted
2.	2.1.B.2.	Work Years by Functional Areas	FY 1992 - 293 FY 1993 - 295	FY 1992 - 293 FY 1993 - 295	No differences noted
3.	2.2.A.	Unconstrained Capacity	10,663 Missions	----	Unable to verify data
4.	2.3.A.	Does facility have a specified war-time or contingency role, established and approved.	Yes - Included in TECOM approved war-plans	Yes (modified) - ATTC is included in - U.S. Army Aviation Development Test Activity Dated August 1983.	Document needs to be updated to reflect new title of organization
5.	3.1.B.	Facility Condition (MV II) - Measure of Merit (Replacement Costs)	$15.0 Million	$33.7 Million	Initial response did not include infrastructure such as roadways, parking, flight support assets
6.	3.1.C.1.	List current or future potential environmental/encroachment impacts on air, land and sea space for testing.	None	None	No differences noted
7.	3.1.C.5.A. 3.1.C.6.	Test Missions per year that are cancelled due to commercial or public use. Test Missions cancelled during the last two years due to encroachment	None	None	No differences noted

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8.	3.1.E.1.	List special aspects of installation that enhance its' ability to expand output within each functional area.	None	* Infrastructure exists to nearly double aircraft and personnel strength * Additional types of aircraft can be supported. * Adjacent land is available for expansion if required.	ATTC's original interpretation of data call did not allow for "what if" scenarios.
9.	3.1.E.2.	Are airspace, land and water areas adjacent to areas under DoD control–available or suited for physical expansion?	No.	Yes - all of the area adjacent to Cairns Army Airfield is rural property that is suitable for expansion	ATTC's original interpretation of the data call did not allow for "what if" scenarios.
10.	3.1.E.3.	Is the facility equipped to support secure operations - If yes, to what level?	Yes. Secret Classification	Yes. Secret Classification	No differences noted.
11.	3.1.E.4.	Are there any capital improvements underway or programmed for 95 FYDP?	No.	Yes - A hangar expansion program is underway at present.	ATTC made a mistake when they filled out initial data call.
12.	3.1.G.1.	How many square miles of air, land and sea space are available to support test operations?	43,440 square miles	49,390 square miles	When we computed the square mileage of the Fort Rucker Alert Area we computed an additional 5,950 square miles. ATTC agreed.

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13.	3.1.G.7.	What is the maximum straight-line segment in your airspace? Expressed in nautical miles.	105 nautical miles	230 nautical miles	The initial computation used a chart that did not portrait the entire Fort Rucker approved airspace. During the audit, we used a chart that represented the space noted in USAAVNC Reg 95-2. This space had a 230 mile st-line segment.
14.	3.1.H.1	Describe the topography and ground cover/vegitation within your test airspace. Include "nap-of-the-earth" capability.	* Typical of earth's environment * Riverain, forested areas * Open cultivated land * rolling terrain, swamp areas * winding river bottoms * conducive to "nap-of-the-earth" operations.	* Typical of earth's environment * Riverain, forested areas * Open cultivated land * rolling terrain, swamp areas * winding river bottoms * conducive to "nap-of-the-earth" operations.	No differences noted.
15.	3.1.H.10.	What percentage of time are your test operations restricted due to bad weather?	Approximately 12% per year	Approximately 12% per year	No differences noted.

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16.	3.2.B.1.	Provide a brief desription of your airfield and support facilities. Include the following: * Number and azimuth of runways * Elevation * Runway length * Over-run length * Terminal and/or landing aids * Arresting cable * Ramp area (Square feet) * Construction materials (runways and ramps) * Load capability * Hangar space	* Two (2) Runways * Elevation - * Length - 4,500 feet 5,000 feet * Over-runs - 500 feet each * Runway "A" azimuth 60 degrees and 240 degrees * Runway "B" azimuth 180 degrees and 360 degrees * The airfield has a terminal and the following landing aids: - Instrument Landing System (ILS) - Non-Directional Beacon (NDB) - Very High Frequency Omni (VOR) - Ground controlled approach * Facility does not have an arresting cable. * Construction materials: - Ramp (asphalt) - Parking pads (concrete) - Runways (concrete) * Load capability - C-141 capable * Hangar space -	* Two (2) Runways * Elevation - 298 MSL * Length - 4,500 feet 5,000 feet * Over-runs - 500 feet each * Runway "A" azimuth 60 degrees and 240 degrees * Runway "B" azimuth 180 degrees and 360 degrees * The airfield has a terminal and the following landing aids: - Instrument Landing System (ILS) - Non-Directional Beacon (NDB) - Very High Frequency Omni (VOR) - Ground controlled approach * Facility does not have an arresting cable. * Construction materials: - Ramp (asphalt) - Parking pads (concrete) - Runways (concrete) * Load capability - C-141 capable * Hangar space - 109,230 sq ft	The only differences noted were the ommision of field elevation (298 MSL) and hangar space (109,230 sq ft) ATTC has been informed of this ommision and will modify response.

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Ref. No.	Datacall Ref.	Data Call Description	ATTC Initial Response	USAAA Verified	Explanation of Difference
17.	3.2.C.1.	What types of air vehicle testing can be supported?	* Performance * Handling qualities * Physical integration with external stores or avionics * Systems integration * Aircraft survivability equipment * Reliability, maintainability and availability. * Rotary wing cannons * Rockets and missiles (except Hellfire)	* Performance * Handling qualities * Physical integration with external stores or avionics * Systems integration * Aircraft survivability equipment * Reliability, maintainability and availability. * Rotary wing cannons * Rockets and missiles (except Hellfire)	No differences noted.
18.	3.2.C.6.	What is the maximum number of simultaneous missions you can support that require telemetry?	Two (2).	Two (2).	No differences noted.
19.	3.3.A.2.	How many simultaneous threats can be supported?	Not applicable to this installation	Not applicable to this installation	No differences noted.
20.	3.3.B.1.	Is there a size, weight or other limitation on test operations this facility can support?	Not applicable to this installation	Not applicable to this installation	No differences noted.
21.	3.4.A.1.	Do you currently test directed energy weapon systems?	No.	No.	No differences noted.
22.	3.4.B.1.A.	What is the area in square miles which you can use to conduct tests of live rocket, missile or bomb systems	Not applicable to this installation	Not applicable to this installation	No differences noted.

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REPLY TO
ATTENTION OF

SAAG-CER (36-5e)

04 AUG 1994

MEMORANDUM FOR Commander, U.S. Army Aeromedical Research Laboratory, ATTN: SGRD-UAC-E (Dr. Kimball), P.O. Box 577, Building 6901, Fort Rucker, Alabama 36362-0577

SUBJECT: Review of Data Furnished to DOD Cross-Service Work Groups -- INFORMATION MEMORANDUM CR 94-708

1. **Introduction.** This is the report on our review of the data the U.S. Army Aeromedical Research Laboratory provided for the laboratory data call for the DOD cross-service work group. The Director of Management requested the review. We will include results in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group, DA, and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished DOD cross-service groups, we:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures used by U.S. Army Aeromedical Research Laboratory personnel to respond to the cross-service group data call.

- Interviewed personnel from the Directorate of Programs and Plans who helped prepare, review, and validate responses to the data elements.

- Tracked responses to data elements to supporting documentation including accounting systems, memorandums, monthly internal reports, and historical workload data.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background.**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum dated 7 January 1994 established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service Base Realignment and Closure actions. Those work groups focus on:

- Medical treatment facilities and graduate medical education centers.

- Test and evaluation facilities.

- Laboratory facilities.

- Undergraduate pilot training.

- Military depot maintenance activities.

- Economic impact.

Each of the work groups prepared a data call requiring activities to provide general information needed to assess and identify cross-service opportunities.

b. **Army Process.** The Chief of Staff, United States Army issued a 21 March 1994 memorandum implementing Office of the Secretary of Defense guidance and providing procedural instructions for Army data calls. Army guidance required responses from each activity identified in the cross-service data calls. Activities were to furnish these responses to their major commands. The major commands provided certified data to the Army Basing Study Office. The Army Basing Study Office was then to provide data to

each of the cross-service work groups. This memorandum addresses your command's response to the Army Basing Study Office for the laboratory data call.

c. **Laboratory Data Call.** The laboratory data call consisted of 25 data elements. The data elements included a mix of objective and subjective information about the laboratory's mission, workload, and facilities. These questions were developed by the cross-service group to identify excess capacity and other cross-service opportunities.

The laboratory is a subordinate activity of U.S. Army Medical, Research, Development, Acquisition and Logistics Command. We evaluated the accuracy and supporting documentation for 21 of the 25 data elements. We didn't evaluate responses for the remaining four data elements. These four elements addressed the education, experience, accomplishments, and technical papers written by the laboratory's personnel.

4. **Results of Review.** Overall, data provided by the laboratory was generally accurate. The laboratory reported accurate data for 20 of the 21 elements we reviewed. Details on the elements and differences noted are in the annex. Conclusions on specific objectives follow:

a. **Accuracy of Reported Data.** The laboratory reported accurate data for 20 of the 21 elements we reviewed. Reported data for one element (laboratory facilities) included the following errors:

- Counted one building twice.

- Omitted one building from the list.

- Transposed figures between the source document and the data call reply.

These errors were identified and corrected during our review.

b. **Supporting Documentation.** The laboratory maintained sufficient supporting documentation for all 21 elements reviewed. Documentation maintained included monthly personnel strength reports, support agreements, and program budget accounting systems documents.

c. **Compliance With Cross Service, DA, and Major Command Guidance.** Generally, the laboratory gathered and submitted data consistent with cross-service work group, DA, and major command guidance. In addition, the laboratory's commander certified that the data submitted was accurate to the best of his knowledge.

5. **Discussion of Results.** We discussed the results of our review with laboratory personnel on 30 June 1994. They agreed with our conclusions and said that actions had been taken to correct and transmit accurate data element responses to U.S. Army Medical, Research, Development, Acquisition and Logistics Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Raymond L. McCaulley

RAYMOND L. MCCAULLEY
Regional Auditor General

CF:
Inspector General, Department of Defense
Army Basing Study Office
U.S. Army Medical, Research, Development,
Acquisition and Logistics Command

LABORATORIES

	DATA ELEMENT		SOURCE USED	SOURCE ADEQUATE Y/N	DATA ELEMENT VALUE
1.	Workload - historic and projected at each activity (see attachment # 1)	2.1	PROGRAM BUDGET ACCT SYS STANFINS, WORK MGT SYS	Y	SEE ATTACHED DATA CALL ELEMENT 2.1
2.	Excess lab Capacity- Measured at the DOD Component Level	2.2	WORK MANAGEMENT SYSTEM DATA CALL FORMULA	Y	PEAK WORKYEARS MINUS PROJECTED FY97 WKYRS 170 - 115 = 55
3.	Mission Capabilities	3.0	SCIENCE AND TECHNOLOGY OBJECTIVES (STO)	Y	MISSIONS CLASSIFIED IN 2 PERVASIVE FUNCTIONS - HUMAN SYSTEMS - MANPOWER AND PERSONNEL
4.	Geographical/ Climatological features	3.1.1	WEATHER BUREAU	Y	FT RUCKER AREA CONDUCIVE TO YEAR ROUND FLIGHT RESEARCH
5.	Licenses & Permits	3.1.2	LICENSE	Y	LICENSE FOR IODINE
6.	Environmental constraints	3.1.3	KNOWLEDGE	Y	NO KNOWN CONSTRAINTS
7.	Special Support Infrastructure	3.1.4	SUPPORT AGREEMENT LOCATION	Y	AVIATION CENTER PROVIDES SUPPORT INFRASTRUCTURE
8.	Proximity to Mission-Related organizations (see attachment # 1)	3.1.5	MOA,MOU,ISA LOCATION	Y	CLOSE TO AVIATION CTR, SAFETY CTR, TECH TEST CTR, AND AEROMEDICAL CTR
9.	Total Personnel (see attachment # 1)	3.2.1	MONTHLY STRENGTH RPT	Y	73 CIVILIAN, 62 MILITARY, AND 24 NON TDA SETA PERSONNEL
10.	Workyear and Lifecycle (see attachment # 1)	3.3.1.2	WORK MEASUREMENT RPT VOUCHERS	Y	78.5 CIVILIAN, 72.8 MILITARY, AND 25.7 SETA WORKYEARS
11.	Engineering Development by Acquisition Category NA	3.3.1.2	*	Y	LAB DOES NOT PROVIDE DIRECT SPT TO PRODUCT FUNCTIONS
12.	In-Service Engineering NA	3.3.1.3	*	Y	LAB DOES NO IN-SERVICE ENGINEERING IN SUPPORT OF WEAPONS SYSTEMS

* U.S. ARMY AEROMEDICAL RESEARCH LABORATORY PROVIDES RESEARCH/EXPERT CONSULTATION TO SUPPORT PRODUCT AND SYSTEM DEVELOPMENT ON A REIMBURSABLE BASIS

	DATA ELEMENT		SOURCE USED	Y/N	DATA ELEMENT VALUE
13.	Direct Funding (see attachment # 1)	3.3.2.1	CMD BUDGET GUIDANCE FOR PREPARING DATA CALL	Y	SEE ATTACHED DATA CALL ELEMENT 3.3.2.1
14.	Other Obligation Authority (see attachment # 1)	3.3.2.2	MIPR DATA ON REIMB AMTS STATEMENTS OF WORK	Y	FY94 ONLY- USAARL REIMB AMOUNTS NOT ABLE TO BE IDENTIFIED IN FY95 PBS
15.	Major Equipment and Facilities (see attachment # 2)	3.4.1	ESTIMATES BASED ON HISTORICAL DATA	Y	SEE ATTACHED DATA CALL ELEMENT 3.4.1
16.	Laboratory Facilities (see attachment # 3)	3.5.1	REAL ESTATE UTILIZATION RPT	Y	USAARL OCCUPIES 9 BUILDINGS; CORRECTIONS WERE MADE TO DATA CALL FIGURES FOR 3 BLDGS
17.	Capacity to absorb additional similiar workyears categorized in the same common support function with minor facility modifications	3.5.1.1	HISTORICAL WORKLOAD DATA	Y	ABLE TO SUPPORT 167 WORKYEARS IN FY 93 AND COULD SUPPORT THAT NUMBER WITHOUT ANY MODIFICATIONS
18.	Number of additional workyears that may be supported	3.5.1.2	ESTIMATE	Y	ESTIMATE OF 14 CONTRACT WORKYEARS BASED ON KNOWN DECREASES IN PERMANENT PERSONNEL
19.	Impact of military construction programs other alterations projects programmed in FY 1995 President's Budget Submission.	3.5.1.3	FY 95 PRESIDENT'S BUDGET SUBMISSION	Y	NO MCA CONSTRUCTION
20.	Number of buildable acres for additional laboratory/ administrative support construction at your installation	3.5.2	DIRECTORATE OF PUBLIC WORKS RECORDS PLANIMETER MAPS	Y	FORT RUCKER HAS 5203 BUILDABLE ACRES USAARL IS A TENANT ORGANIZATION
21.	Estimate installations capabilities to expand or procure additional utility services (electric, gas, water).	3.5.3	DIRECTORATE OF PUBLIC WORKS RECORDS	Y	USAARL- ELEC 25K KWH, WATER 675K GAL/DAY TOTAL INSTALLATION- ELEC 67K KWH WATER 6 MILLION GAL/DAY

ATTACHMENT 1						
2.1 WORKLOAD				FISCAL YEARS		
	87	88	89	90	91	
PROGRAMMED FUNDS ($M)	7.4	7.0	6.2	6.8	7.6	
ACTUAL FUNDS ($M)	5.4	5.4	5.9	6.7	7.6	
PROGRAMMED WORKYEARS	153	156	167	170	164	
ACTUAL WORKYEARS	167	172	186	183	172	
3.1.5 PROXIMITY						
NAME	DISTANCE					
ARMY AVIATION CENTER	1 MILE					
ARMY SAFETY CENTER	1 MILE					
DIR OF COMBAT DEVELOPMENT	1 MILE					
TECHNICAL TEST CENTER	8 MILES					
AEROMEDICAL CENTER	1/2 MILE					
3.2.1 TOTAL PERSONNEL						
TYPES	CIVILIAN	MILITARY	SETA			
TECHNICAL	43	48	24			
MANAGEMENT	5	8	0			
OTHER	25	6	0			
TOTAL	73	62	24			
3.3.1.1 WORKYEAR AND LIFE CYCLE		FY93				
SCIENCE AND TECHNOLOGY	CIVILIAN	MILITARY	SETA			
HUMAN SYSTEMS	64.5	61.8	13.7			
MANPOWER AND PERSONNEL	14.0	11.0	12.0			
TOTAL	78.5	72.8	25.7			
3.3.2.1 DIRECT FUNDING ($K)						
	FY94	FY95	FY96	FY97		
HUMAN SYSTEMS	4131	3982	3663	3663		
MANPOWER AND PERSONNEL	685	483	444	444		
TOTAL	4816	4465	4107	4107		
3.3.2.2 OTHER OBLIGATION FY94 ($K)						
HUMAN SYSTEMS	412					
MANPOWER SONNEL	57					

ATTACHMENT 2

4.1

FACILITY	UNIQUE TO	REPLACEMENT COST ($K)
UH60 HELICOPTER RESEARCH SIMULATOR	U.S.	$20,000
2 ROTARY, 1 FIXED WING RESEARCH AIRCRAFT (JUH 60, JUH 1, JU 21)	U.S.	25,000
MAN-RATED MULTI-AXIS RIDE SIMULATOR	FED GOVT	10,000
HELMET IMPACT TEST FACILITY	U.S.	2,500
ACOUSTICAL SCIENCES RESEARCH FACILITY	FED GOVT	5,000
VISUAL SCIENCES RESEARCH FACILITY	DOD	5,000
REMOTE BLAST OVERPRESSURE RESEARCH FACILITY KIRKLAND AFB, NM	U.S.	3,500
FLIGHT PERFORMANCE DATABASE AVIATION LIFE SUPPORT	U.S.	2,500
EQUIPMENT RETRIEVAL PROGRAM ALSERP) DATABASE	U.S.	2,880
AVIATION EPIDEMIOLOGY DATA REGISTER- MEDICAL FLT RECORDS	NOT UNIQUE	3,200

ATTACHMENT 3

3.5.1	LAB FACILITIES			
BLDG	TYPE OF SPACE	CURRENT	USED	EXCESS
6901	ADMIN	17.4	9.5	7.9
	TECHNICAL	74.5	74.5	0.0
	STORAGE	7.1	7.1	0.0
28150	TECHNICAL	1.2	1.2	0.0
6902	ADMIN	0.1	0.1	0.0
	TECHNICAL	13.4	13.4	0.0
	STORAGE	0.3	0.3	0.0
6904	TECHNICAL	4.2	4.2	0.0
	STORAGE	0.2	0.2	0.0
8825	TECHNICAL	2.6	2.6	0.0
	STORAGE	0.1	0.1	0.0
60112	TECHNICAL	0.1	0.1	0.0
6903	UTILITY	2.2	2.2	0.0
6905	UTILITY/STORAGE	12.0	12.0	0.0
6906	UTILITY/STORAGE	2.0	2.0	0.0

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DEPARTMENT OF THE ARMY
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SAAG-NER (36-5e) 15 June 1994

MEMORANDUM FOR Garrison Commander, Fort Ritchie, ATTN: ANRT-CD, Fort Ritchie, Maryland 21719-5010

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Fort Ritchie--INFORMATION MEMORANDUM NR 94-709

1. **Introduction.** This is the report on our review of the installation assessment your command did for the 1995 Army Basing Study. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Our specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, we believe that not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data used for assessing installation values, we:

- Reviewed DA guidance on installation assessments and compared it with the guidance and methods Fort Ritchie used to determine attribute values.
- Interviewed personnel from the Directorates of Resource Management, Public Works, Information Management, and Plans, Training and Mobilization who helped prepare, review and validate reported attribute data.

- Tracked values to supporting data in the Headquarters Real Property Planning and Analysis System as of April 1994.

- Compared selected data from the Real Property Planning System with data in the Integrated Facilities System and Real Property Record (DA Forms 2877).

- Examined the installation Master Plan, area and installation maps, blueprints for selected buildings, financial reports, and various environmental reports. We visited some facilities to confirm supporting data.

- Verified calculations of data values.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990, as amended, provides a timely, independent and fair process for closing and realigning U.S. Military installations. The Army established the Basing Study Office to manage the study process. The office divided the study into two phases. Under phase I the Army does installation assessments to measure the relative military value of its installations. Under phase II the Army identifies and evaluates alternatives for closure and realignment. This memorandum addresses only our review of your command's installation assessment process.

b. **Attributes.** Fort Ritchie is a subordinate activity of the Military District of Washington and is categorized by the Army as an administrative support installation. Installations in this category were required to report data for 20 attributes to the Basing Study Office. DA provided values for 5 of the 20 attributes and the Military District of Washington provided the values for 1 attribute. We evaluated the accuracy of the remaining 14 attributes provided by Fort Ritchie.

4. **Results of Review.** Overall, data used for assessing installation values at Fort Ritchie was generally accurate, and the Army could use the data to make closure and realignment analyses. Reported data for 9 of the 14 attributes was accurate, but data for 5 attributes included some incorrect values. Details on attributes reviewed and differences noted are in the annex. Conclusions on specific objectives follow.

a. **Accuracy of Reported Data.** Fort Ritchie reported accurate data for 9 of 14 attributes, but the remaining 5 contained some incorrect values.

(1) **Accurate Data.** Fort Ritchie reported accurate data for 9 attributes. We didn't identify any mistakes in values reported for Accessibility, Average Age of Facilities, Barracks and Family Housing, Buildable Acres, Family Housing Cost a Dwelling Unit, Maintenance Facilities, Operations/Administrative Facilities, Percent Permanent Facilities, and Supply and Storage Facilities.

(2) **Inaccurate Data.** Data reported for five attributes (Environmental Carrying Capacity, Information Mission Area, Infrastructure, Mobilization Capability and Reserve Training) included errors.

(a) **Environmental Carrying Capacity.** Fort Ritchie reported an incorrect value for one of seven factors related to this attribute. For the water quality factor, Fort Ritchie reported that it twice exceeded the parameters of the National Pollutant Discharge Elimination System during FY 92. This equates to a value of 30 points. Discharge monitoring reports showed that the installation exceeded the parameters three times during the fiscal year, giving a total of 45 points.

(b) **Information Mission Area.** Installation personnel incorrectly computed values for three of seven categories for this attribute. Multiplication errors resulted in incorrect category values for Outside Cable Plant, Common User Mainframe Support, and Post Wide Area Network/Defense Data Network Node, but didn't affect the overall attribute score of 1,370 points.

- **Outside Cable Plant.** Fort Ritchie reported 320 points. The category had 11 points and a weight of 20 points. Therefore the score should have been 220 points (11 points times 20).

  Common User Mainframe Support. Fort Ritchie reported 335 points. The category had 27 points and a weight of 15 points, equating to a score of 405 points (27 points times 15).

- **Post Wide Area Network/Local Area Network.** Fort Ritchie reported 45 points instead of 75 points. The category had 5 points and a weight of 15 points (5 points times 15).

(c) **Infrastructure.** Fort Ritchie reported an incorrect value for one of four factors on this attribute. For the water factor, Fort Ritchie reported .552 million gallons a day. The Installation Master Plan, however, shows that Fort Ritchie's water capacity is .522 million gallons a day. Fort Ritchie personnel told us the variance was a typographical error.

(d) **Mobilization Capability.** Fort Ritchie reported incorrect values for two of six categories for this attribute. It reported 2,577 mobilization billets; our review identified 2,660 billets. Also, Fort Ritchie reported two indoor ranges with eight lanes. Our review showed that one of the two ranges, which was undergoing construction, will have five lanes. Therefore Fort Ritchie should have reported two indoor ranges with a total of nine lanes.

(e) **Reserve Training.** Fort Ritchie reported incorrect values for this attribute's two categories. It reported 65 Reserve Component personnel for annual training and 2,340 days for individual duty training (based on 65 soldiers training 2 days a month for 11 months and 2 weeks annual training). Our review showed that the National Guard unit training at Fort Ritchie had 61 soldiers--not 65--and wouldn't do annual training there. Thus Fort Ritchie shouldn't have reported any personnel in the annual training category. And the value it reported for individual duty training should have been 1,342 training days (61 soldiers multiplied by 22 days).

b. **Data Sources and Methods.** Personnel used appropriate sources and methods to determine data values for 13 of 14 attributes. For the Reserve training attribute, Army guidance states that installations should compute the average training days for FYs 91-93. Fort Ritchie personnel didn't have actual Reserve training records for that period, so they reported the number of training days programmed for FY 95.

c. **Completeness of Records Maintained.** Fort Ritchie personnel generally maintained adequate supporting documents for the data values they reported, except for the Reserve Training attribute, as discussed previously. And, although documentation of past reserve component training was not available, the methodology/records used by Fort Ritchie to obtain an attribute value were reasonable and appropriate.

SAAG-NER
SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Fort Ritchie--INFORMATION MEMORANDUM NR 94-709

5. **Discussion of Results.** We discussed the results of our review with Mr. Charles Pearl, Director of Resource Management and Ms. Marty Shaffer, Budget Analyst on 3 June 1994. They agreed with our conclusions and said that action had been or would be taken to correct and resubmit the attribute values to the Military District of Washington. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Robert S. Rak
for HENRY P. CULLERTON
Regional Auditor General

Encl

CF:
Basing Study Office
Commander, U.S. Military District
of Washington

ANNEX

DATA ATTRIBUTES REVIEWED

Data Attribute	Unit of Measure	Reported by Fort Ritchie	Verified by Army Audit Agency	Difference*
Accessibility	Miles			
Average Miles Fort Ritchie Garrison		56.5	56.5	0
Average Miles Garrison and Tenants		66	66	0
Average Age of Facilities	Average Age/ Square Foot	41.48	41.48	0
Barracks and Family Housing	Units	2,937	2,937	0
Buildable Acres	Acres	255	255	0
Environmental Carrying Capacity	Composite Index			
Archaeology and Historic Buildings		.49	.49	0
Endangered Species		0	0	0
Wetlands		.2	.2	0
Air Quality		150	150	0
Water Quality		30	45	(15)
Noise Quality		0	0	0
Contaminated Sites		0	0	0
Total Raw Score		180.7	195.7	(15)
Family Housing Cost a Dwelling Unit	Dollars	$8,918.72	$8,918.72	0
Information Mission Area	Various			
Telephone Switching		450	450	0
Outside Cable Plant		320	220	100
Common User Mainframe Support		335	405	(70)
Digital Switched Network/Defense Data Network Node		75	75	0
Post Wide Area/Local Area Network		45	75	(30)
Telecommunications Center		100	100	0
Video Teleconference		45	45	0
Total Score		1,370	1,370	0
Infrastructure				
Water	Million Gallons	.552	.522	.03
Sewage Treatment	Million Gallons	.5	.5	0
Electricity	Million Kilovolt Amps	5,000	5,000	0
Landfill	Dollars	65	65	0
Maintenance Facilities	Square Feet	55,396	55,396	0

* These are explained in the body of the memorandum.

ANNEX

Data Attribute	Unit of Measure	Reported by Fort Ritchie	Verified by Army Audit Agency	Difference*
Mobilization Capability	Various			0
Mobilization Billets		2,577	2,660	(83)
Deployment Network		0	0	0
Ranges		2/8 Lanes	2/9 Lanes	(1)
Net Maneuver Acres		0	0	0
Contiguous Maneuver Acres		0	0	0
Workspace		5	5	0
Operations/Administrative Facilities	Square Feet	594,902	594,902	0
Percent Permanent Facilities	Percent	87	87	0
Reserve Training				
Annual Training	Personnel	65	0	65
Individual Duty Training	Days	2,340	1,342	998
Supply and Storage Facilities	Square Feet	95,945	95,945	0

* These are explained in the body of the memorandum.

Document Separator

DEPARTMENT OF THE ARMY
CENTRAL REGION, U.S. ARMY AUDIT AGENCY
12140 WOODCREST EXECUTIVE DRIVE
ST. LOUIS, MISSOURI 63141-5046

REPLY TO
ATTENTION OF

SAAG-CER (36-5e)

05 AUG 1994

MEMORANDUM FOR Director, U.S. Army Redstone Arsenal
Technical Test Center, ATTN: STERT-TE,
Redstone Arsenal, Alabama 35898-8052

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups -- INFORMATION MEMORANDUM CR 94-710

1. **Introduction.** This is the report on our review of the data your center provided for the test and evaluation data call for the DOD cross-service work group. The Director of Management requested the review. We will include results in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group, DA, and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished DOD cross-service groups, we:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures used by Redstone Technical Test Center personnel to respond to the DOD cross-service work group data call.

- Interviewed personnel from Redstone Technical Test Center who helped prepare, review, and validate responses to the data elements.

- Tracked responses to data elements to supporting documentation including accounting systems, memorandums, internal reports, and historical workload data.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background.**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service base realignment and closure actions. Those work groups focus on:

- Medical treatment facilities and graduate medical education centers.

- Test and evaluation facilities.

- Laboratory facilities.

- Undergraduate pilot training.

- Military depot maintenance activities.

- Economic impact.

Each of the work groups prepared a data call requiring activities to provide general information needed to assess and identify cross-service opportunities.

b. **Army Process.** The Chief of Staff, U.S. Army issued a 21 March 1994 memorandum implementing the DOD guidance and providing procedural instructions for Army data calls. Army guidance required responses from each activity identified in the cross-service data calls. Activities were to furnish these responses to their major commands. The major commands provided certified data to the Army Basing Study Office. The Army Basing Study Office will then provide data to each of the cross-service work groups. This memorandum addresses your center's response to the Army Basing Study Office for the test and evaluation data call.

c. **Test and Evaluation Data Call.** The test and evaluation data call consisted of 94 data elements. The data elements included a mix of objective and subjective information about the center's mission, workload, and facilities. These questions were developed by the cross-service group to identify excess capacity and other cross-service opportunities.

Redstone Technical Test Center--a subordinate command of U.S. Army Test and Evaluation Command--was required to provide responses for four test facilities. Those test facilities are the Component Test Facility, Induced Environment Facility, Non-Destructive and Natural Environments Range, and the Small Missile Range. For each test facility's response, we evaluated the accuracy and supporting documentation of 23 of the 94 data elements. We reviewed the 23 data elements that focused on excess capacity, workload, and facilities.

4. **Results of Review.** Overall, data provided by the Redstone Technical Test Center was generally accurate. However, some corrections are needed. Details on the elements we reviewed and differences noted are in the annex. Conclusions on specific objectives follow:

a. **Accuracy of Reported Data.** Redstone Technical Test Center's data call response had some errors. We identified the following errors that should be corrected and reported to the U.S. Army Test and Evaluation Command:

- For data element 3.1.B (Facility Condition), all four test facilities used acquisition cost to report the replacement cost of their respective facilities. We believe this significantly understates the actual cost to replace their facilities.

- The Component Test Facility reported unconstrained capacity of 133,719 hours (data element 2.2.A). The actual unconstrained capacity is 1,333,719 hours. The error was caused by a miscalculation of the reported data.

- The Component Test Facility and the Induced Environment Facility omitted upgrades valued at $1.1 million and $325,000, respectively, from data element 3.1.B (Facility Condition).

- The Component Test Facility identified a Millimeter Wave Facility as a capital improvement (data element 3.1.E.4) programmed for FY 95. The facility is ongoing and below the threshold of a capital project.

b. **Supporting Documentation.** Redstone Technical Test Center generally maintained sufficient supporting documentation for all of the elements reviewed. In cases where the center didn't have records or the capability to track and monitor the requested data, personnel kept records that clearly explained their logic and any assumptions made in answering the requested data element.

c. **Compliance With Cross-Service, DA, and Major Command Guidance.** Generally, the center gathered and reported data consistent with cross-service work group, DA, and major command guidance. For example, the center's director certified the data was accurate to the best of his knowledge.

5. **Discussion of Results.** We discussed the results of our review with Redstone Technical Test Center personnel on 12 July 1994. They agreed with our conclusions and said that action had been or would be taken to correct and retransmit corrected data element responses to U.S. Army Test and Evaluation Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Raymond L. McCaulley

RAYMOND L. MCCAULLEY
Regional Auditor General

CF:
Inspector General, Department of Defense
Army Basing Study Office
U.S. Army Test and Evaluation Command
U.S. Army Missile Command

Component Test Facility

Data Call Reference Number	Source	Adequate	Result
2.1.B.1	U.S. Army Test and Evaluation Command	Yes	Program Elements 23801, 63757, 63392, 64816, 23802, 62303, 63238, CA0252, C16000, CA0260, CE8710, CA0286, C18600, C20000, CA0267, CA0275, C49200, C35200, CA0255, C22200, C70300, AA0968, AA0977, C70100, E37335, E37337, E37333, E37334, CA0253, C59403, C61700
2.1.B.2	In-house workload reports	Yes	FY 92 A/W = 97.9 workyears Other T&E = 98.0 workyears FY 93 A/W =116.8 workyears Other T&E = 84.5 workyears A/W - Armaments/weapons T&E - Test and Evaluation
2.2.A	Branch Chiefs	No	Reported 133,719 hours of annual unconstrained capacity, should be 1,333,719 hours of annual unconstrained capacity.
2.3.A	Deputy Director	Yes	No role in approved war plans.
	Technology Development and Acquisition Plan	No	(1) Acquisition value ($48 million) used as replacement cost; replacement value would be significantly higher (no estimate available). (2) 3 upgrades planned but not reported (estimated cost of $1.125 million).
3.1.C.1	Environmental Assessment	Yes	Limit of 600,000 pounds of propellant burned is actually an estimate.
3.1.C.5.A	Branch Chiefs	Yes	Reported 3 tests canceled because of commercial or public use.
3.1.C.6	Branch Chiefs	Yes	Reported 3 tests canceled because of encroachment.
3.1.E.1	Branch Chiefs	Yes	No special aspects that would enhance this facility.
3.1.E.2	Branch Chiefs	Yes	No adjacent land suitable for expansion to support new missions or increased footprints.

Component Test Facility

3.1.E.3	Branch Chiefs	Yes	Can support all levels of secure operations.
3.1.E.4	Major Construction Activity project administrator	No	Reported a millimeter wave facility as programmed for FY 95; facility is ongoing and below the threshold of a capital project.
3.1.G.1	Branch Chiefs and map of facility	Yes	1.4 square miles.
3.1.G.7	Branch Chiefs and map of facility	Yes	4.5 vertical miles; 0 horizontal miles.
3.1.H.1	Branch Chiefs	Yes	Hills/Forest, 1 square mile; Open lowlands, 0.4 square miles.
.10	Branch Chiefs	Yes	0.5 percent of time.
3.2.B.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.6	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.3.A.2	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.
3.3.B.1	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.

Component Test Facility

3.4.A.1	Branch Chiefs	Yes	Not applicable; don't test directed energy weapons.
3.4.B.1.A	Branch Chiefs and map of facility	Yes	1.4 square miles.

Induced Environments Test Facility

Data Call Reference Number	Source	Adequate	Result
2.1.B.1	U.S. Army Test and Evaluation Command	Yes	Program Elements 23801, 63757, 63392, 64816, 23802, 62303, 63238, CA0252, C16000, CA0260, CE8710, CA0286, C18600, C20000, CA0267, CA0275, C49200, C35200, CA0255, C22200, C70300, AA0968, AA0977, C70100, E37335, E37337, E37333, E37334, CA0253, C59403, C61700
2.1.B.2	In-house workload reports	Yes	FY 92 A/W = 22.8 workyears Other T&E = 51.8 workyears FY 93 A/W = 23.9 workyears Other T&E = 54.4 workyears A/W - Armaments/Weapons T&E - Test and Evaluation
2.2.A	Branch Chiefs	Yes	411,720 hours of unconstrained capacity.
2.3.A	Deputy Director	Yes	No role in approved war plans.
	Technology Development and Acquisition Plan	No	(1) Acquisition value ($41.8 million) used as replacement cost; replacement value would be significantly higher (no estimate available). (2) 3 upgrades planned; only 2 reported (missing upgrade estimated to cost $325,000).
3.1.C.1	Environmental Assessment	Yes	No limiting environmental or encroachment characteristics.
3.1.C.5.A	Branch Chiefs	Yes	No test missions canceled.
3.1.C.6	Branch Chiefs	Yes	No test missions canceled.
3.1.E.1	Branch Chiefs	Yes	No special aspects that would enhance this facility.
3.1.E.2	Branch Chiefs	Yes	No adjacent land suitable for expansion to support new missions or increased footprints.

Induced Environments Test Facility

3.1.E.3	Branch Chiefs	Yes	Can support all levels of secure operations.
3.1.E.4	Major Construction Activity project administrator	Yes	No capital projects planned.
3.1.G.1	Branch Chiefs and map of facility	Yes	0.3 square miles.
3.1.G.7	Branch Chiefs and map of facility	Yes	4.9 vertical miles; 0 horizontal miles.
3.1.H.1	Branch Chiefs	Yes	0.3 square miles of cultivated lowland.
.10	Branch Chiefs	Yes	Data not available.
3.2.B.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.6	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.3.A.2	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.
3.3.B.1	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.

Induced Environments Test Facility

3.4.A.1	Branch Chiefs	Yes	Not applicable; don't test directed energy weapons.
3.4.B.1.A	Branch Chiefs and map of facility	Yes	Not applicable; don't conduct flight tests.

Non-Destructive and Natural Environments Test Facility

Data Call Reference Number	Source	Adequate	Result
2.1.B.1	U.S. Army Test and Evaluation Command	Yes	Program Elements 23801, 63757, 63392, 64816, 23802, 62303, 63238, CA0252, C16000, CA0260, CE8710, CA0286, C18600, C20000, CA0267, CA0275, C49200, C35200, CA0255, C22200, C70300, AA0968, AA0977, C70100, E37335, E37337, E37333, E37334, CA0253, C59403, C61700
2.1.B.2	In-house workload reports	Yes	FY 92 A/W = 34.8 workyears Other T&E = 68.7 workyears FY 93 A/W = 27.6 workyears Other T&E = 74.9 workyears A/W - Armaments/Weapons T&E - Test and Evaluations
2.2.A	Branch Chiefs	Yes	566,845 hours of unconstrained capacity.
2.3.A	Deputy Director	Yes	No role in approved war plans.
	Technology Development and Acquisition Plan	No	(1) Acquisition value ($40.5 million) used as replacement cost; replacement value would be significantly higher (no estimate available). (2) 2 upgrades planned.
3.1.C.1	Environmental Assessment	Yes	No limiting environmental or encroachment characteristics.
3.1.C.5.A	Branch Chiefs	Yes	No test missions canceled.
3.1.C.6	Branch Chiefs	Yes	No test missions canceled.
3.1.E.1	Branch Chiefs	Yes	No special aspects that would enhance this facility.
3.1.E.2	Branch Chiefs	Yes	No adjacent land suitable for expansion to support new missions or increased footprints.

Non-Destructive and Natural Environments Test Facility

3.1.E.3	Branch Chiefs	Yes	Can support all levels of secure operations.
3.1.E.4	Major Construction Activity project administrator	Yes	No capital projects planned.
3.1.G.1	Branch Chiefs and map of facility	Yes	5.8 square miles.
3.1.G.7	Branch Chiefs and map of facility	Yes	3.5 nautical miles.
3.1.H.1	Branch Chiefs	Yes	Forest/Jungle, 1 square mile; Cultivated lowland, 4.8 square miles.
10	Branch Chiefs	Yes	Data not available.
3.2.B.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.6	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.3.A.2	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.
3.3.B.1	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.

Non-Destructive and Natural Environments Test Facility

3.4.A.1	Branch Chiefs	Yes	Not applicable; don't test directed energy weapons.
3.4.B.1.A	Branch Chiefs and map of facility	Yes	5.8 square miles.

Small Missile Range

Data Call Reference Number	Source	Adequate	Result
2.1.B.1	U.S. Army Test and Evaluation Command	Yes	Program Elements 23801, 63757, 63392, 64816, 23802, 62303, 63238, CA0252, C16000, CA0260, CE8710, CA0286, C18600, C20000, CA0267, CA0275, C49200, C35200, CA0255, C22200, C70300, AA0968, AA0977, C70100, E37335, E37337, E37333, E37334, CA0253, C59403, C61700
2.1.B.2	In-house workload reports	Yes	FY 92: A/W = 8.1 workyears; Other T&E =101.6 workyears. FY 93: A/W = 9.7 workyears; Other T&E =100.7 workyears. A/W - Armaments/Weapons. T&E - Test and Evaluation
2.2.A	Branch Chiefs	Yes	323,390 hours of unconstrained capacity.
2.3.A	Deputy Director	Yes	No role in approved war plans.
	Technology Development and Acquisition Plan	No	(1) Acquisition value ($75.4 million) used as replacement cost; replacement value would be significantly higher (no estimate available). (2) 2 upgrades planned.
3.1.C.1	Environmental Assessment	Yes	No limiting environmental or encroachment characteristics.
3.1.C.5.A	Branch Chiefs	Yes	No test missions canceled.
3.1.C.6	Branch Chiefs	Yes	No test missions canceled.
3.1.E.1	Branch Chiefs	Yes	Type of testing is constrained by land; no land available.
3.1.E.2	Branch Chiefs	Yes	No adjacent land suitable for expansion to support new missions or increased footprints.

Small Missile Range

3.1.E.3	Branch Chiefs	Yes	Can support all levels of secure operations.
3.1.E.4	Major Construction Activity project administrator	Yes	No capital projects planned.
3.1.G.1	Branch Chiefs and map of facility	Yes	13.3 square miles.
3.1.G.7	Branch Chiefs and map of facility	Yes	6 nautical miles.
3.1.H.1	Branch Chiefs	Yes	Mountains, 1.5 square miles; Forest/Jungle, 1.5 square miles; Cultivated lowland, 10.3 square miles.
.10	Branch Chiefs	Yes	Data not available.
3.2.B.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.1	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.2.C.6	Deputy Director	Yes	Not applicable; don't test air vehicles.
3.3.A.2	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.
3.3.B.1	Deputy Director	Yes	Not applicable; don't test electronic combat systems or subsystems.

Small Missile Range

3.4.A.1	Branch Chiefs	Yes	Not applicable; don't test directed energy weapons.
3.4.B.1.A	Branch Chiefs and map of facility	Yes	13.3 square miles.

Document Separator

Undergraduate Pilot Training Data Call

U.S. Army Aviation Center and Fort Rucker, Alabama

U.S. Army Audit Agency

21 September 1994
Audit Report: CR 94-713

DEPARTMENT OF THE ARMY
CENTRAL REGION, U.S. ARMY AUDIT AGENCY
12140 WOODCREST EXECUTIVE DRIVE
ST. LOUIS, MISSOURI 63141-5046

21 September 1994

Director of Management
Director, Army Basing Study Office
Commander, U.S. Army Aviation Center and Fort Rucker

This is our report on the audit of data furnished to the undergraduate pilot training joint cross-service work group. The Director of Management requested the audit. Because the audit was part of a multilocation audit, we will include these results in an overall report to senior Army management.

These are the report's key sections:

- The Summary of the Audit is an overview of what we audited and found.

- General Information tells how we conducted the audit and gives other important information on matters related to the audit.

- Annex A lists detailed information for the data elements reported by the activity. Annex B lists others receiving copies of the report. Annex C lists the audit staff.

This report isn't subject to the command-reply process that AR 36-2 prescribes.

I appreciate the courtesies and cooperation extended to us during the audit.

FOR THE AUDITOR GENERAL:

Raymond L. McCaulley

RAYMOND L. MCCAULLEY
Regional Auditor General

CONTENTS

Page

Summary of the Audit

What We Audited 5

Objectives, Conclusions, and Suggested Actions 5

General Information

Audit Scope and Methodology 11

Background 12

Responsibilities 12

Annexes

A - Review of Reported Data Elements 17

B - Others Receiving Copies of the Report 53

C - Audit Staff 54

SUMMARY OF THE AUDIT

WHAT WE AUDITED

We audited the Army's response and supporting documentation for the undergraduate pilot training Joint Cross-Service Work Group's 1995 Base Realignment and Closure data call. The audit focused on procedures that reporting activities used to gather and submit data to the Army Basing Study Office. The Basing Study Office will submit the information to the work group.

The audit was part of a multilocation audit of data furnished to each of the Joint Cross-Service Work Groups. Therefore, we will include the results in a summary report to senior Army management.

OBJECTIVES, CONCLUSIONS, AND SUGGESTED ACTIONS

Our overall objective was to evaluate the accuracy of data the Army furnished the DOD cross-service work groups. We established two specific objectives for the audit. Here are those specific objectives, our conclusions, and suggested actions.

Objective: To determine whether data was prepared in accordance with cross-service work group, DA, and major command guidance.

Conclusion: Generally, data for all 23 elements we reviewed was prepared in accordance with cross-service work group, DA, and major command guidance. Aviation Center and Fort Rucker didn't comment on the usability of the installation for undergraduate pilot training, which was requested in the guidance as part of one data element. Command personnel stated they were unsure of how to answer the request so they didn't respond.

The requested comment on usability gives command an opportunity to provide information--not addressed elsewhere in the data call--which may be useful to the cross-service work group.

Suggested Action: Command should comment on the usability of the installation for undergraduate pilot training.

Objective: To determine whether data reported was accurate and adequately supported.

Conclusion: Data command reported for 20 of the 23 data elements was accurate and adequately supported. One data element wasn't accurate, and two data elements weren't adequately supported.

Command's reported amounts for the data element of additional capacity in flight operations per hour to be gained, given no operational funding constraints were inaccurate. Command used only operations in the most active month of FY 93 to report this data element. By using the most active month, command overstated the current level of activity. We believe that if command used an average of all months for the fiscal year, it would more accurately portray current levels of activity and, also, portray additional capacity to be gained. Command calculated the additional capacity by subtracting the current level of activity from the maximum capacity.

The two data elements that weren't adequately supported were additional capacity to be gained in terms of:

- Flight operations per hour, given no construction/ equipment funding constraints.

- Student hours, given no construction/equipment funding constraints.

Command responded to the flight operations element by stating that given unlimited construction/equipment funding, any desired amount of capacity could be achieved. Command replied to the student hours element with the comment that Fort Rucker would have unlimited capabilities if unlimited resources were provided. Neither of these responses provided meaningful data, adequately supported by documentation to the cross-service work group.

Details on the 23 elements we reviewed and the differences we noted are in Annex A.

Suggested Actions:

Command should revise its reply addressing additional capacity to be gained in flight operations per hour, given no operational funding constraints. The reply will provide a more accurate response if the current level of activity is based on an average of all months for the fiscal year, rather than the most active month.

Command should resubmit its response for the data elements additional capacity to be gained--in terms of both flight operations per hour and student hours--given no construction/equipment funding constraints. (We suggested, and command is considering, assigning unit costs to the two unsupported elements. By assigning unit costs, command

could graph capacity to be gained for any level of funding. Command stated that support for the cost data could be obtained from the databases.)

We discussed the results of our review and suggested actions with command personnel on 30 June 1994. Command personnel expressed no objections to our suggested actions and wanted to reserve any comments until they received the final audit report.

GENERAL INFORMATION

AUDIT SCOPE AND METHODOLOGY

We performed the audit:

- At the request of the Director of Management.
- From June through July 1994.

We performed the audit, in most material respects, in accordance with generally accepted government auditing standards. Accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our audit.

The audit covered transactions representative of operations current at the time of the audit.

We:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures used by Fort Rucker personnel to respond to the cross-service group data call.
- Interviewed personnel from the Directorate of Plans, Training, Mobilization and Security; the Directorate of Public Works; and the Aviation Training Brigade. These personnel helped prepare, review, and validate responses to the data elements.
- Tracked responses to data elements to supporting documentation including regulations, architectural and engineering drawings, memorandums, and maps.
- Verified calculations of data values.
- Observed training facilities to verify classroom space for student capacity.
- Reviewed 23 data elements from several hundred the cross-service work group included in the data call. Personnel from the Office of the Inspector General, DOD, assisted us in selecting the more significant data elements for our review.

BACKGROUND

The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service base realignment and closure actions. Those work groups focus on:

- Medical treatment facilities and graduate medical education centers.
- Test and evaluation facilities.
- Laboratory facilities.
- Undergraduate pilot training.
- Military depot maintenance activities.
- Economic impact.

Each of the work groups prepared a data call requiring activities to provide information needed for assessing and identifying cross-service opportunities. The Chief of Staff issued a 21 March 1994 memorandum implementing Office of Secretary of Defense guidance and providing procedural instructions for Army data calls. Generally, each of the Army activities identified in the cross-service data calls were to furnish responses to the major commands which provided certified data to the Army Basing Study Office. The Army Basing Study Office then provided consolidated data to each of the cross-service work groups.

RESPONSIBILITIES

The Assistant Secretary of the Army (Installations, Logistics and Environment) is responsible for policy and management of all Base Realignment and Closure initiatives.

The Army Basing Study Office, established 1 August 1993, serves as the single Army staff point of contact for Base Realignment and Closure 1995. The Director, Army Basing Study Office has staff responsibility for:

- Army liaison with joint cross-service work groups.

- Establishing and disseminating cross-service and DA guidance to major commands and reporting activities.

As the Army's single point of contact for Base Realignment and Closure, the Army Basing Study Office was also responsible for:

- Receiving and reviewing cross-service data furnished by major commands and reporting activities.

- Forwarding data to the cross-service work groups.

- Reviewing and supporting Army recommendations to the cross-service work groups.

ANNEXES

REVIEW OF REPORTED DATA ELEMENTS

Data Element	Support	Adequate?	Reported Value	Verified Value	Explanation of Difference
Number of aircraft on base for training	• Hand receipts (current year) • USAAVNC Aircraft requirement--from TRADOC (outyears)	Yes	See attachment 1	Same	
Annual operations (sorties flown) by aircraft	• Aviation Management Information System (input from pilot records)	Yes	See attachment 2	Same	
Average number of daylight flying hours per day	• USAAVNC Reg 350-3	Yes	See attachment 3	Same	
Daylight UPT sorties lost last three years	• Mission Profile (input from pilot records)	Yes	See attachment 4	Same	
Average number of operations/hour the airfield can support	• USAAVNC Reg 95-2 • FAA 7110.65H, "Air Traffic Control" • FAA Regs Part 152 • FAA "Airman's Information Manual"	Yes	See attachment 5	Same	
Additional capacity in flight operations (without operational funding constraints)	• FY 93 Traffic Count (compiled by 1st of the 11th, Air Traffic Control Battalion)	Yes	See attachment 6	See attachment 6	Reported value based on most active month; recommended value based on yearly average
Addition capacity in flight operations (without construction funding constraints)	• No response from Command	No	No value reported	No value to verify	Provide a specific value based on sound methodology
Maximum sortie generating capacity/year	• Current maintenance contract and aircraft mix	Yes	See attachment 7	Same	
Requested measures & comments about the usability of the facility for UPT	• USA COE drawings (requested measures) • No comments from Command	Yes	See attachment 8	Same	
Limitation of transit corridors between train areas & air station	• Installation Compatible Use Zone Study--from Higginbotham/Briggs & Assoc., Architects & Planners	Yes	No limitations	No limitations	
List of all special use airspace	• New Orleans Sectional Aeronautical Chart, 53rd Ed. • Memorandum for Director, USAASA, 14 Jan 94, Subject: Special Use Airspace, Cubic Square Miles	Yes	See attachment 9	Same	
Deployments to other domestic locations	• Interview (no deployments to other locations)	Yes	No deployments	No deployments	
Additional capacity in student hours (without operational funding constraints)	• Observation of classroom facilities	Yes	See attachment 10	Same	
Additional capacity in student hours (without construction funding constraints)	• No response from Command	No	No value reported	No value to verify	Provide a specific value based on sound methodology
Number of aircraft based and parked on aprons	• USA COE Drawings • USAAVNC Reg 95-2 • Bell Helicopter/Textron Contract: New Training Helicopter Program	Yes	See attachment 11	Same	

REVIEW OF REPORTED DATA ELEMENTS

Data Element	Support	Adequate?	Reported Value	Verified Value	Explanation of Difference
Separation between aircraft & obstructions limiting placement of planes on aprons	• TM 5-803-4, Chapter 7, Parking Aprons	Yes	See attachment 12	Same	
Maximum number of aircraft housed in hangars	• Dyncorp CAD program • Contract DABT01-92-R-0072	Yes	See attachment 13	Same	
Obstructions limiting placement of planes in hangars	• Dyncorp CAD program • Contract DABT01-92-R-0072 • TM 55-1520-210-10	Yes	No obstructions	No obstructions	
Maximum number of aircraft maintained at installation	• Historical Supplement, USAAVNC • Interviews with Vietnam-era employees	Yes	1147	1147	
New military missions planned for installation	• Interview (no new missions planned)	Yes	No new missions	No new missions	
Possibility of increasing utilization of airspace	• AR 95-2 • Memo for DARR to FAA, Southern Region, 27 Oct 93, Subject: Restricted Area/Military Operations Area Utilization	Yes	Yes	Yes	
Whether increased in terms of volume or hours of use	• New Orleans Sectional Aeronautical Chart, 53rd Ed. • FAA Joint Use Restricted Area Letters of Procedure	Yes	Both	Both	
Whether commercial operators pose constraints on operations	• USAAVNC Regulation 210-5	Yes	No constraints	No constraints	

- DARR - DA Regional Representative
- FAA - Federal Aviation Administration
- TM - Technical Manual
- TRADOC - U.S. Army Training and Doctrine Command
- UPT - Undergraduate Pilot Training
- USAAVNC - U.S. Army Aviation Center
- USAAVNS - U.S. Army Aviation School
- USACOE - U.S. Army Corps of Engineers

Attachment 1

NUMBER OF AIRCRAFT ON BASE FOR TRAINING

Total Aircraft by Type and Fiscal Year

Aircraft	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
AH-1	33	22	22	22	22	22	22	22
AH-64	9	10	6	9	4	4	4	4
AH-64A	57	69	51	48	53	53	30	30
AH-64D	0	0	0	0	0	0	18	24
C-12	2	4	4	4	4	4	4	4
C-23	0	0	0	0	0	0	0	0
CH-47D	21	22	22	22	22	22	22	22
H-3	0	0	0	0	0	0	0	0
OH-58A/C	73	69	63	60	60	60	60	60
OH-58D	40	40	40	40	40	40	40	40
OV-1	5	0	0	0	0	0	0	0
TH-67	45	135	119	130	130	130	130	130
U-21	4	5	3	3	3	3	3	3
UH-1	206	215	115	89	88	88	88	88
UH-60	48	35	35	35	35	35	35	35

Attachment 1

NUMBER OF AIRCRAFT ON BASE FOR TRAINING

Cairns Aircraft by Type and Fiscal Year

Aircraft	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
AH-1	3	4	4	4	2	2	2	2
AH-64	9	10	6	9	4	4	4	4
AH-64A								
AH-64D								
C-12	2	4	4	4	4	4	4	4
C-23								
CH-47D	4	4	4	4	4	4	4	4
H-3								
OH-58A/C	2	2	2	2	2	2	2	2
OH-58D	7	5	5	4	4	4	4	4
OV-1	5							
TH-67	27	40	31	34	34	34	34	34
U-21	4	5	3	3	3	3	3	3
UH-1	71	92	44	36	36	36	36	36
UH-60	48	35	35	35	35	35	35	35

Attachment 1

NUMBER OF AIRCRAFT ON BASE FOR TRAINING

Hanchey Aircraft by Type and Fiscal Year

Aircraft	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
AH-1	30	18	18	18	20	20	20	20
AH-64								
AH-64A	57	69	51	48	53	53	30	30
AH-64D							18	24
C-12								
C-23								
CH-47D	17	18	18	18	18	18	18	18
H-3								
OH-58A/C								
OH-58D	33	35	35	36	36	36	36	36
OV-1								
TH-67								
U-21								
UH-1								
UH-60								

Attachment 1

NUMBER OF AIRCRAFT ON BASE FOR TRAINING

Lowe Aircraft by Type and Fiscal Year

Aircraft	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
AH-1								
AH-64								
AH-64A								
AH-64D								
C-12								
C-23								
CH-47D								
H-3								
OH-58A/C	71	67	61	58	58	58	58	58
OH-58D								
OV-1								
TH-67	18	95	88	96	96	96	96	96
U-21								
UH-1	135	123	71	53	52	52	52	52
UH-60								

Attachment 1

NUMBER OF AIRCRAFT NOT USED FOR TRAINING

By Type and Fiscal Year

Aircraft	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
AH-1		1	1	1	1	1	1	1
AH-64		6	4	4	4	4	4	4
AH-64A								
AH-64D								
C-12		3	3	4	4	4	4	4
C-23		2	2	2	2	2	2	2
CH-47D		1	1	1	1	1	1	1
H-3		2	2	2	2	2	2	2
OH-58A/C		3	2	2	2	2	2	2
OH-58D		2	1	1	1	1	1	1
OV-1								
TH-67								
U-21		4	4	3	3	3	3	3
UH-1		19	11	11	4	4	4	4
UH-60		6	6	5	11	11	11	11

Attachment 2

SORTIES FLOWN/BY AIRCRAFT TYPE AND FISCAL YEAR

Airfield	FY 91	FY 92	FY 93
Allen **UH-1**			
Operational			
Undergraduate Training	22,800	15,900	19,500
Graduate Training			
Training Support			
Other			
Total Sorties	22,800	15,900	19,500
Non-operational			
Standowns	9	9	9
Maintenance			
Brown **OH-58**			
Operational			
Undergraduate Training	7,740	6,480	7,560
Graduate Training	5,160	4,320	5,040
Training Support			
Other			
Total Sorties	12,900	10,800	12,600
Non-operational			
Standowns	14	14	14
Maintenance			
Cairns AAF **UH-1**			
Operational			
Undergraduate Training	161,393	209,806	140,277
Graduate Training			
Training Support	15,962	18,244	17,338
Other			
Total Sorties	177,355	228,050	157,615
Non-operational			
Standowns			
Maintenance			
Cairns AAF **UH-60**			
Operational			
Undergraduate Training	30,849	48,838	53,807
Graduate Training	35,363	41,715	32,284
Training Support	9,029	11,192	11,739
Other			
Total Sorties	75,241	101,745	97,830
Non-operational			
Standowns			
Maintenance			

Attachment 2

SORTIES FLOWN/BY AIRCRAFT TYPE AND FISCAL YEAR

Airfield	FY 91	FY 92	FY 93
Cairns AAF **U-21**			
Operational			
Undergraduate Training			
Graduate Training	6,589	4,784	5,002
Training Support	591	421	435
Other			
Total Sorties	7,180	5,205	5,437
Non-operational			
Standowns			
Maintenance			
Cairns AAF **C-12**			
Operational			
Undergraduate Training			
Graduate Training	6,880	5,269	5,329
Training Support	140	108	109
Other			
Total Sorties	7,020	5,377	5,438
Non-operational			
Standowns	24	24	24
Maintenance			
Cairns AAF **OV-1**			
Operational			
Undergraduate Training			
Graduate Training	6,600	4,833	4,616
Training Support	537	421	814
Other			
Total Sorties	7,137	5,254	5,430
Non-operational			
Standowns	24	24	24
Maintenance			
Highbluff **UH-60**			
Operational			
Undergraduate Training	7,332	6,156	8,052
Graduate Training	8,268	5,244	5,148
Training Support			
Other			
Total Sorties	15,600	11,400	13,200
Non-operational			
Standowns	14	14	14
Maintenance			

Attachment 2

SORTIES FLOWN/BY AIRCRAFT TYPE AND FISCAL YEAR

Airfield	FY 91	FY 92	FY 93
Hooper **UH-1**			
Operational			
Undergraduate Training	32,700	17,100	9,600
Graduate Training			
Training Support			
Other			
Total Sorties	32,700	17,100	9,600
Non-operational			
Standowns	9	9	9
Maintenance			
Hunt **AH-1**			
Operational			
Undergraduate Training	11,458	8,165	7,709
Graduate Training	3,422	1,915	2,851
Training Support			
Other			
Total Sorties	14,880	10,080	10,560
Non-operational			
Standowns	14	14	14
Maintenance			
Hunt **OH-58D**			
Operational			
Undergraduate Training			
Graduate Training	3,720	2,520	2,640
Training Support			
Other			
Total Sorties	3,720	2,520	2,640
Non-operational			
Standowns	14	14	14
Maintenance			
Lowe AHP **UH-1**			
Operational			
Undergraduate Training	223,702	173,292	100,663
Graduate Training	12,856	12,090	28,398
Training Support	20,571	16,120	17,600
Other			
Total Sorties	257,129	201,502	146,661
Non-operational			
Standowns	20	20	20
Maintenance			

Attachment 2

SORTIES FLOWN/BY AIRCRAFT TYPE AND FISCAL YEAR

Airfield	FY 91	FY 92	FY 93
Lucas **UH-1**			
Operational			
Undergraduate Training	15,600	17,100	16,200
Graduate Training			
Training Support			
Other			
Total Sorties	15,600	17,100	16,200
Non-operational			
Standowns	9	9	9
Maintenance			
Runkle **UH-1**			
Operational			
Undergraduate Training	10,640	3,850	3,225
Graduate Training	5,560	33,050	2,475
Training Support			
Other			
Total Sorties	16,200	36,900	5,700
Non-operational			
Standowns			
Maintenance			
Skelly **UH-1**			
Operational			
Undergraduate Training	21,000	12,600	8,700
Graduate Training			
Training Support			
Other			
Total Sorties	21,000	12,600	8,700
Non-operational			
Standowns	9	9	9
Maintenance			
Stinson **UH-1**			
Operational			
Undergraduate Training	32,400	27,300	36,810
Graduate Training			
Training Support			
Other			
Total Sorties	32,400	27,300	36,810
Non-operational			
Standowns	14	14	14
Maintenance			

Attachment 2

SORTIES FLOWN/BY AIRCRAFT TYPE AND FISCAL YEAR

Airfield	FY 91	FY 92	FY 93
Toth **UH-1**			
Operational			
Undergraduate Training	8,400	1,500	10,800
Graduate Training			
Training Support			
Other			
Total Sorties	8,400	1,500	10,800
Non-operational			
Standowns			
Maintenance			
Ech **AH-64**			
Operational			
Undergraduate Training			
Graduate Training	11,100	11,700	10,680
Training Support			
Other			
Total Sorties	11,100	11,700	10,680
Non-operational			
Standowns	14	14	14
Maintenance			
Goldberg **CH-47**			
Operational			
Undergraduate Training			
Graduate Training	11,900	6,610	6,840
Training Support			
Other			
Total Sorties	11,900	6,610	6,840
Non-operational			
Standowns	14	14	14
Maintenance			
Hanchey AHP **AH-1**			
Operational			
Undergraduate Training	27,646	30,231	23,681
Graduate Training	7,953	5,384	7,662
Training Support	2,272	5,798	3,482
Other			
Total Sorties	37,871	41,413	34,825
Non-operational			
Standowns	20	20	20
Maintenance			

Attachment 2

SORTIES FLOWN/BY AIRCRAFT TYPE AND FISCAL YEAR

Airfield	FY 91	FY 92	FY 93
Hanchey AHP **AH-64**			
Operational			
Undergraduate Training			
Graduate Training	42,340	41,239	29,034
Training Support	6,892	5,623	3,959
Other			
Total Sorties	49,232	46,862	32,993
Non-operational			
Standowns	20	20	20
Maintenance			
Hanchey AHP **CH-47**			
Operational			
Undergraduate Training			
Graduate Training	18,708	8,936	8,139
Training Support	5,277	1,962	2,859
Other			
Total Sorties	23,985	10,898	10,998
Non-operational			
Standowns	20	20	20
Maintenance			
Hanchey AHP **OH-58D**			
Operational			
Undergraduate Training			
Graduate Training	13,179	8,239	11,034
Training Support	1,969	1,569	1,796
Other			
Total Sorties	15,148	9,808	12,830
Non-operational			
Standowns	20	40	20
Maintenance			
Shell AHP **OH-58A/C**			
Operational			
Undergraduate Training	119,206	85,343	80,957
Graduate Training	63,597	45,516	43,177
Training Support	15,894	11,379	10,795
Other			
Total Sorties	198,697	142,238	134,929
Non-operational			
Standowns	20	20	20
Maintenance			

Attachment 3

AVERAGE NUMBER OF FLYING HOURS PER DAY

	Daylight	Night
Average flying hours per day:		
FY 91	2904	2904
FY 92	2904	1452
FY 93	2904	1452

Attachment 4

DAYLIGHT UNDERGRADUATE PILOT TRAINING SORTIES LOST LAST THREE YEARS

Aircraft	Factor	FY 91	FY 92	FY 93	Graduate, Undergraduate, or Both
AH-1	Weather	6.75%	5.80%	5.92%	Both
	Maintenance	0.84%	1.84%	1.27%	
	Other	1.91%	1.03%	0.80%	
	Total	9.50%	8.67%	7.99%	
AH-64	Weather	6.37%	5.78%	5.33%	Graduate
	Maintenance	2.16%	8.20%	10.46%	
	Other	1.51%	0.51%	0.62%	
	Total	10.05%	14.48%	16.41%	
OH-58D	Weather	6.92%	8.91%	5.31%	Graduate
	Maintenance	1.47%	3.62%	4.08%	
	Other	3.78%	2.03%	1.49%	
	Total	12.17%	14.56%	10.88%	
CH-47D	Weather	6.42%	6.04%	6.29%	Graduate
	Maintenance	8.49%	6.78%	4.38%	
	Other	1.14%	0.63%	0.46%	
	Total	16.05%	13.45%	11.13%	
OH-58A/C	Weather	12.50%	7.54%	7.64%	Both
	Maintenance	0.20%	0.76%	0.69%	
	Other	4.74%	1.92%	1.68%	
	Total	17.45%	10.21%	9.98%	

Attachment 4

DAYLIGHT UNDERGRADUATE PILOT TRAINING SORTIES LOST LAST THREE YEARS

Aircraft	Factor	FY 91	FY 92	FY 93	Graduate, Undergraduate, or Both
UH-60	Weather	10.09%	6.07%	7.15%	Both
	Maintenance	2.96%	3.11%	3.09%	
	Other	2.60%	1.07%	1.34%	
	Total	15.65%	10.24%	11.58%	
UH-1	Weather	11.45%	6.77%	8.61%	Both
	Maintenance	2.53%	0.53%	0.23%	
	Other	1.59%	0.49%	0.49%	
	Total	15.56%	7.79%	9.34%	
OV-1	Weather	3.98%	2.71%	4.06%	Graduate
	Maintenance	2.16%	1.60%	0.74%	
	Other	1.59%	0.62%	0.74%	
	Total	7.74%	4.93%	5.54%	

Attachment 5

AVERAGE NUMBER OF OPERATIONAL HOURS AIRFIELDS CAN SUPPORT

Basefields	Operational Hours
Shell	348
Lowe	390
Hanchey	480
Cairns	210
Stagefields	
Allen	432
Brown	432
Ech	360
Goldberg	288
Hatch	432
Highbluff	360
Hooper	432
Hunt	288
Louisville	288
Lucas	432
Runkle	216
Skelly	288
Stinson	432
Tabernacle	288
Toth	360

Attachment 6

ADDITIONAL CAPACITY IN FLIGHT OPERATIONS-NO OPERATIONAL FUNDING CONSTRAINTS

Additional Operational Hours

Stagefields	Originally Reported	Suggested Changes
Allen	272	318
Brown	369	388
Ech	307	323
Goldberg	248	264
Hatch	432	432
Highbluff	309	316
Hooper	352	386
Hunt	222	248
Louisville	288	288
Lucas	308	333
Runkle	173	184
Skelly	229	242
Stinson	249	303
Tabernacle	288	288
Toth	242	305

Attachment 7

MAXIMUM SORTIE-GENERATING CAPACITY PER YEAR

Aircraft	Maximum Capacity
AH-64	27,900
AH-1F	16,200
OH-58D(I)	18,900
OH-58A/C	47,700
CH-47D	9,900
UH-1H	128,700
UH-60	22,500
TH-67	23,400
OV-1	2,700
C-12	400
U-21	2,700

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Allen	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	53,328 SY	6
	111	Parking Pads	1,067 SY	12
	113	Parking Aprons	48,433 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Brown	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	80,000 SY	6
	111	Parking Pads	1,600 SY	18
	113	Parking Aprons	44,778 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Cairns AAF	111	Runways, Fixed Wing	160,000 SY	2
	111	Runways, Rotor Wing	SY	0
	111	Parking Pads	18,347 SY	199
	113	Parking Aprons	176,750 SY	11
	113	Access Aprons	38,479 SY	1
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Highbluff	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	66,670 SY	5
	111	Parking Pads	SY	0
	113	Parking Aprons	22,587 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

Attachment 8

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Hunt	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	73,333 SY	4
	111	Parking Pads	SY	0
	113	Parking Aprons	48,473 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Lowe AAF	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	SY	0
	111	Parking Pads	12,230 SY	13
	113	Parking Aprons	171,488 SY	1
	113	Access Aprons	11,674 SY	1
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

Attachment 8

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Lucas	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	80,000 SY	6
	111	Parking Pads	1,600 SY	18
	113	Parking Aprons	44,778 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Runkle	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	39,999 SY	3
	111	Parking Pads	2,711 SY	61
	113	Parking Aprons	22,653 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

Attachment 8

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Skelly	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	88,888 SY	4
	111	Parking Pads	120 SY	6
	113	Parking Aprons	SY	0
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Stinson	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	80,000 SY	6
	111	Parking Pads	1,600 SY	18
	113	Parking Aprons	44,778 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Toth	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	66,655 SY	5
	111	Parking Pads	26,667 SY	1
	113	Parking Aprons	15,000 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Ech	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	57,666 SY	5
	111	Parking Pads	800 SY	9
	113	Parking Aprons	9,478 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

Attachment 8

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Goldberg	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	53,333 SY	4
	111	Parking Pads	SY	0
	113	Parking Aprons	41,800 SY	1
	113	Access Aprons	SY	0
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0
Hanchey AH	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	556 SY	1
	111	Parking Pads	175,000 SY	8
	113	Parking Aprons	1,666 SY	1
	113	Access Aprons	42,408 SY	1
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

REQUESTED MEASURES AND COMMENTS ABOUT USABILITY FOR UNDERGRADUATE PILOT TRAINING

FIELD	CAT CODE	FACILITY TYPE	UNIT MEASURE	QUANTITY
Shell AF	111	Runways, Fixed Wing	SY	0
	111	Runways, Rotor Wing	80,013 SY	5
	111	Parking Pads	43,226 SY	7
	113	Parking Aprons	117,221 SY	
	113	Access Aprons	2,501 SY	
	121	Direct Fueling	OL/GM	0
	121	Truck Fueling	OL/GM	0
	121	Defueling	OL/GM	0
	124	Fuel Storage	GA	0
	136-36 (USN)	Carrier Lighting	EA	0
	149	Arresting Gear	EA	0
	421	Amunition Storage	CF	0
	422 (AF)	Ammunition Storage	CF	0
	425	Open Ammunition Storage	SY	0

USN - U.S. Navy
AF - U.S. Air Force

Attachment 9

SPECIAL USE AIRSPACE

Restricted Areas:

Name: R-2103

Location: Ft. Rucker, AL

Size: 60 sq. mi. (area)
2.76 st. mi. (altitude)
165.9 cu. mi. (volume)

Available Times: Continuous

Airspace Controlling Activity: FAA, Jacksonville ARTCC

Scheduling Activity: Commanding General, U.S. Army Aviation Center, Ft. Rucker, AL

Method of Scoring/Recording: NA

Proximity to Airport Traffic Areas: No airport traffic areas impact training.

Provider of radar/communications coverage/control: Cairns Army Radar Approach Control (radar and communications)

Owner of land under training airspace: Army

Distance en route: 5 NM or less

Environmental limitations impeding mission: None

Land, sea, or air encroachments endangering long-term availability: None

The following Restricted Areas are within 100 NM of Ft. Rucker, but the requested information isn't available at Ft. Rucker:

R-2905A & B

R-2914A & B

R-2915A, B & C

R-2917

R-2918

R-2919A & B

R-3002A, B, C, D, E & F

Attachment 9

SPECIAL USE AIRSPACE

Military Operations Areas:

Name: Rucker A

Location: Ft. Rucker, AL

Size: 280.0 sq. mi. (area)
0.26 st. mi. (altitude)
74.20 cu. mi. (volume)

Available Times: By notice to airmen, at least 24 hours in advance

Airspace Controlling Activity: FAA, Jacksonville ARTCC

Scheduling Activity: Commanding General, U.S. Army Aviation Center, Ft. Rucker, AL

Method of Scoring/Recording: NA

Proximity to Airport Traffic Areas: No airport traffic areas impact training.

Provider of radar/communications coverage/control: Cairns Army Radar Approach Control (radar and communications)

Owner of land under training airspace: MOA floors don't extend to the land surface. As such, there's no requirement to control the property under the airspace.

Distance en route: 5 NM or less

Environmental limitations impeding mission: None

Land, sea, or air encroachments endangering long-term availability: None

Name: Rucker B

Location: Ft. Rucker, AL

Size: 330.0 sq. mi. (area)
0.26 st. mi. (altitude)
87.45 cu. mi. (volume)

Available Times: By notice to airmen, at least 24 hours in advance

Airspace Controlling Activity: FAA, Jacksonville ARTCC

Attachment 9

SPECIAL USE AIRSPACE

Scheduling Activity: Commanding General, U.S. Army Aviation Center, Ft. Rucker, AL

Method of Scoring/Recording: NA

Proximity to Airport Traffic Areas: No airport traffic areas impact training.

Provider of radar/communications coverage/control: Cairns Army Radar Approach Control (radar and communications)

Owner of land under training airspace: MOA floors don't extend to the land surface. As such, there's no requirement to control the property under the airspace.

Distance en route: 15 NM or less

Environmental limitations impeding mission: None

Land, sea, or air encroachments endangering long-term availability: None

Name: Rucker C

Location: Ft. Rucker, AL

Size: 396.0 sq. mi. (area)
0.26 st. mi. (altitude)
104.94 cu. mi. (volume)

Available Times: By notice to airmen, at least 24 hours in advance

Airspace Controlling Activity: FAA, Jacksonville ARTCC

Scheduling Activity: Commanding General, U.S. Army Aviation Center, Ft. Rucker, AL

Method of Scoring/Recording: NA

Proximity to Airport Traffic Areas: No airport traffic areas impact training.

Provider of radar/communications coverage/control: Cairns Army Radar Approach Control (radar and communications)

Owner of land under training airspace: MOA floors don't extend to the land surface. As such, there's no requirement to control the property under the airspace.

Distance en route: 20 NM or less

Environmental limitations impeding mission: None

Land, sea, or air encroachments endangering long-term availability: None

Attachment 9

SPECIAL USE AIRSPACE

ARTCC - Air Route Traffic Control Center

MOA - Military Operations Area

NM - Nautical Miles

The following Military Operations Areas are within 100 NM of Ft. Rucker, but the requested information isn't available at Ft. Rucker:

Pensacola South and Pensacola North

Camden Ridge

Pine Hill East

Eglin A East, A West, B, C, D, E, and F

Rose Hill

Benning

Moody 1 and Moody 2

Tyndall A, B, C, D, E, and G

Alert Areas:

Name: A-211

Location: Ft. Rucker, AL

Size: 9,000 sq. mi. (area)
0.871 st. mi. (altitude)
104.94 cu. mi. (volume)

Available times: 0600-2200 M-F

Airspace Controlling Activity: NA

Scheduling Activity: Commanding General, U.S. Army Aviation Center, Ft. Rucker, AL

Method of Scoring/Recording: NA

Proximity to Airport Traffic Areas: There are five areas of Class D airspace within A-211. Four of the areas--Shell, Andalusia, Troy, and Cairns--are in direct support of the flight training mission of the installation. The fifth area--Dothan--is within 25 air miles of A-211.

Attachment 9

SPECIAL USE AIRSPACE

Provider of radar/communications coverage/control: Cairns Army Radar Approach Control (radar and communications)

Owner of land under training airspace: There is no requirement to control the surface under A-211.

Distance en route: Immediate proximity (four of five areas). 25 NM (one area).

Environmental limitations impeding mission: None

Land, sea, or air encroachments endangering long-term availability: None

The following Alert Areas are within 100 NM of Ft. Rucker, but the requested information isn't available at Ft. Rucker:

A-292

Percentage of possible increase in usable airspace:

Usable airspace: 37.5% possible increase (8,000 to 11,000 sq. mi.)

Density: 346.4% possible increase (one aircraft every 44.64 sq. mi. to one aircraft every 10 sq. mi.)

Attachment 10

ADDITIONAL CAPACITY IN STUDENT HOURS

Training Facility	Current Capacity	Projected Capacity	Gain In Capacity
5202	743,424	2,230,272	1,486,848
5301	557,568	1,672,704	1,115,136
5203	557,568	1,672,704	1,115,136
5302	526,592	1,579,776	1,053,184
5206	1,002,848	3,008,544	2,005,696
6022	737,616	2,212,848	1,475,232
5207A	429,792	1,289,376	859,584
5207B	518,848	1,556,544	1,037,696
5205	77,440	232,320	154,880
6005	137,456	412,368	274,912
9007	48,400	145,200	96,800
Totals	5,337,552	16,012,656	10,675,104

Attachment 11

NUMBER OF AIRCRAFT BASED AND PARKED ON APRONS

Airfield	Aircraft	Quantity
Hanchey	AH-64	63
	CH-47	15
	AH-1	19
	O-58D	81
Lowe	UH-1	43
	TH-67	110
	OH-58A/C	71
Cairns	UH-1	19
	TH-67	105
	UH-60	49
	OV-1	5
	C-12	2
	U-21	5
	OH-58A/C	5
	OH-58D	7
	AH-1	3
	AH-64	9
	CH-47	4
Shell	UH-1	43
	OH-58	43
Knox	UH-60	26
	UH-1	4
	OH-58	16
	AH-64	18

Attachment 12

OBSTRUCTIONS LIMITING PLACEMENT OF PLANES ON APRON

Aircraft	Parking Dimensions	Separation
UH-1	80′ x 80′	80′
AH-1	80′ x 80′	80′
OH-58A/C	80′ x 80′	80′
UH-60	80′ x 160′	160′
AH-64	80′ x 160′	160′
CH-47	110′ x 100′	100′
TH-67	80′ x 80′	80′
C-12	44′ x 55′	55′
OV-1	44′ x 55′	55′
U-21	44′ x 55′	55′

Attachment 13

MAXIMUM NUMBER OF AIRCRAFT TO BE HOUSED IN HANGARS

Aircraft	Maximum
UH-1	133
OH-58A/C	125
UH-60	64
TH-67	32
C-12	2
U-21	5
AH-64	105
H-3	2
C-23	2
AH-1	6
CH-47	1
OH-58D	44

OTHERS RECEIVING COPIES OF THE REPORT

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Assistant Secretary of the Army (Installations, Logistics and Environment)
Assistant Secretary of the Army (Manpower and Reserve Affairs)
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The Inspector General
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ANNEX C

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SAAG-NER (36-5e) 15 June 1994

MEMORANDUM FOR Garrison Commander, Carlisle Barracks, ATTN: ATZE-GC, Carlisle Barracks, Pennsylvania 17013-5002

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Carlisle Barracks--INFORMATION MEMORANDUM NR 94-706

1. **Introduction.** This is the report on our review of the installation assessment your command did for the 1995 Army Basing Study. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Our specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data used for assessing installation values, we:

- Reviewed DA guidance on installation assessments and compared it with the guidance and methods Carlisle Barracks personnel used to determine attribute values.
- Interviewed personnel from the Directorates of Resource Management, Public Works, Information Management, and Plans and Training who helped prepare, review and validate reported attribute values.

- Tracked values to supporting data in the Headquarters Real Property Planning and Analysis System as of April 1994.

- Compared selected data in the Integrated Facilities System to Real Property Records (DA Forms 2877).

- Reviewed the installation Master Plan and Cultural Resource Management Plan, area and installation maps, financial reports and various environmental studies and reports.

- Verified calculations of data values.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990, as amended, provides a timely, independent and fair process for closing and realigning U.S. Military installations. The Army established the Basing Study Office to manage the study process. The office divided the study into two phases. Under phase I the Army does installation assessments to measure the relative military value of its installations. Under phase II the Army identifies and evaluates alternatives for closure and realignment. This memorandum addresses only our review of your command's installation assessment process.

b. **Attributes.** Carlisle Barracks is a subordinate activity of the U.S. Army Training and Doctrine Command that the Army categorizes as a professional education installation. Installations in this category were required to report data for 20 attributes to the Basing Study Office. DA provided values for 5 of the 20 attributes. Training and Doctrine Command required Carlisle Barracks to report data for 7 of the 15 remaining attributes and to verify data command reported for the 7 of the other 8 remaining attributes. We evaluated the accuracy of data for the 14 attributes that Carlisle Barracks reported or verified.

4. **Results of Review.** Overall, data used for assessing installation values at Carlisle Barracks was generally accurate, and the Army could use the data to make closure and realignment analyses. Reported data for 11 of 14 attributes was accurate, and data for 3 attributes included some incorrect values. Details on attributes reviewed and differences noted are in the annex. Conclusions on specific objectives follow:

a. **Accuracy of Reported Data.** Carlisle Barracks reported accurate data for 11 of 14 attributes, but the remaining 3 attributes included some incorrect values.

(1) **Accurate Data.** Carlisle Barracks reported accurate data for 11 attributes. We didn't identify any discrepancies in values reported for Applied Instructional Facilities, Average Age of Facilities, Barracks, Buildable Acres, Family Housing, Family Housing Cost a Dwelling Unit, General Instructional Facilities, Infrastructure, Mobilization Capability, Reserve Training, and Workspace.

(2) **Inaccurate Data.** Data reported for three attributes (Environmental Carrying Capacity, Information Mission Area, and Percent of Permanent Facilities) included mistakes.

(a) **Environmental Carrying Capacity.** Carlisle Barracks reported values for eight factors for this attribute. Values for seven were accurate, but the historical building factor included five incorrect values:

- **Historical Buildings Density.** The barracks reported a density of 103 historic buildings. However, a 1991 Cultural Resource Management Plan and enclosed map for the barracks identified 104 buildings.

- **National Register of Historic Places.** The barracks reported 26 buildings on the National Register of Historic Places. Supporting registration documentation identified only 22 buildings.

- **Eligible Buildings.** The barracks reported 76 buildings eligible for the National Register of Historic Places. It should have reported 82 buildings. All 104 historic buildings identified in the Cultural Resource Management Plan are eligible less the 22 already registered.

- **Buildings Surveyed.** The barracks reported 27 buildings surveyed. The Cultural Resource Management Plan, however, showed that a contractor surveyed 102 buildings in 1991.

- **Percent Completed.** The barracks reported that surveys were completed on 26 percent of its buildings. It should have reported 98 percent (102 of

104 buildings) based on the contractor's survey cited in the Cultural Resource Management Plan.

(b) **Information Mission Area.** Carlisle Barracks reported incorrect values for three of seven categories in this attribute:

- **Telephone Switching.** Personnel used an August 1993 survey of the switching system to determine the value of 250 points in the telephone switching category. However, this survey didn't include telephone lines for a new building recently constructed at the barracks. To accommodate the new building, the barracks increased the number of equipped and expandable telephone lines. This action increased the value for telephone switching to 400 points.

- **Common User Mainframe Architecture.** The barracks reported 450 points for this category, including 75 points for being a regional data center for the Army Standard Information Management System. However, this isn't the case. Information management personnel at the barracks told us they aren't a regional data center or data processing center for the system. Therefore the barracks should have reported only 375 points in this category.

- **Digital Switched Network/Defense Data Network Node.** The barracks didn't report points for the Military Network or the Defense Information Systems Network. However, information management personnel at the barracks told us they have and use both networks. Therefore the value for this category should be increased from 25 to 75 points.

(c) **Percent of Permanent Facilities.** Training and Doctrine Command asked Carlisle Barracks to verify the 76.51 percent that command reported for this attribute. To do this, barracks personnel reviewed the age distribution report from the Headquarters Real Property Planning and Analysis System and found that 98 percent of the buildings were permanent. The barracks reported this change to command. We reviewed the documentation barracks personnel used and agree that 98 percent is correct.

b. **Data Sources and Methods.** Carlisle Barracks followed Army installation assessment guidance and used

appropriate sources and methods to obtain data values for the 14 attributes reviewed.

c. **Completeness of Records Maintained.** Carlisle Barracks maintained adequate records to support reported data values. Barracks personnel had sufficient documentation on file to verify reported values for the 14 attributes reviewed.

5. **Discussion of Results.** We discussed the results of our review with Lieutenant Colonel McIlwain, Director of Resource Management, and Mr. DiDomenico, Budget Analyst, on 3 June 1994. They agreed with our conclusions and said that action had been or would be taken to correct and retransmit attribute values to the Training and Doctrine Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Encl

for HENRY P. CULLERTON
Regional Auditor General

CF:
Basing Study Office
Commander, U.S. Army Training and Doctrine Command

ANNEX

DATA ATTRIBUTES REVIEWED

Data Attribute	Unit of Measure	Reported by Carlisle Barracks	Verified by Army Audit Agency	Difference*
Applied Instructional Facilities**	Square Feet	0	0	0
Average Age of Facilities**	Average Age/ Square Feet	42.9	42.9	0
Barracks**	Permanent Spaces	78	78	0
Buildable Acres	Acres	32	32	0
Environmental Carrying Capacity	Composite Index			
Archaeological Factor				
Archaeological Site Density		4	4	0
Sites on National Register		0	0	0
Eligible/Potential Sites		2	2	0
Total Acres Surveyed		90	90	0
Total Installation Acres		403	403	0
Percent Completed		22	22	0
Historical Building Factor				
Historical Buildings Density		103	104	(1)
Buildings on National Register		26	22	4
Eligible/Potential Buildings		76	82	(6)
Total Buildings Surveyed		27	102	(75)
Percent Completed		26	98	(72)
Endangered Species Factor		0	0	0
Wetlands Factor		6.3	6.3	0
Air Quality Factor		No	No	None
Water Quality Factor		0	0	0
Noise Quality Factor		0	0	0
Contaminated Sites Factor		0	0	0
Family Housing**	Dwelling Units	321	321	0
Family Housing Cost a Dwelling Unit	Dollars/Unit	$8,248	$8,248	0

*Differences are explained in the body of the memorandum.

**U.S. Army Training and Doctrine Command reported the value. Carlisle Barracks was responsible for verifying the value.

Data Attribute	Unit of Measure	Reported by Carlisle Barracks	Verified by Army Audit Agency	Difference*
General Instructional Facilities**	Square Feet	260,000	260,000	0
Information Mission Area	Various			
Telephone Switching		250	400	(150)
Outside Cable Plant		260	260	0
Common User Mainframe Support		450	375	75
Defense Switched Network/ Defense Data Network Node		25	75	(50)
Post Wide Area/Local Area Networks		75	75	0
Telecommunications Center		50	50	0
Video Teleconference		45	45	0
Total Score		1,155	1,280	(125)
Infrastructure				
Water	Gallons/Day (Millions)	1.0	1.0	0
Sewage Treatment	Gallons/Day (Millions)	.25	.25	0
Electricity	Kilovolt Amperes (Millions)	10,000	10,000	0
Landfill	Dollars/Short Ton	$41.69	$41.69	0
Mobilization Capability	Various	0	0	0
Percent Permanent Facilities**	Percent	76.51	98	(21.49)
Reserve Training				
Annual Training	Personnel	0	0	0
Individual Duty Training	Days	0	0	0
Workspace**	Square Feet	107,000	107,000	0

*Differences are explained in the body of the memorandum.

**U.S. Army Training and Doctrine Command reported the value. Carlisle Barracks was responsible for verifying the value.

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DEPARTMENT OF THE ARMY
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NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 15 June 1994

MEMORANDUM FOR Commander, Savanna Army Depot Activity,
Savanna, Illinois 61074-9636

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Savanna Army Depot Activity--INFORMATION MEMORANDUM NR 94-707

1. **Introduction.** This is the report on our review of installation assessment your command did for the 1995 Army Basing Study. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

Our review consisted of:

- Comparing the DA guidance for the appropriate determining the value of installation assessment attributes with the guidance and method that Savanna Army Depot Activity used.
- Reviewing the source data and documentation supporting the values the depot reported.
- Verifying the mathematics used to determine the reported values.

We also made limited tests of the accuracy of the data values reported. This included:

- Reviewing installation real property records and visiting some facilities to evaluate the reasonableness of the records.

- Reviewing installation maps.

- Confirming by telephone the data provided by individuals not located at the depot.

- Discussing the data provided by individuals at the depot.

- Reviewing accounting records for prior years' actual costs.

- Reviewing regulatory guidance.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 provides a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. The office divided the study process into two phases. Under phase I the Army assesses the relative military value of its installations. Under phase II the Army identifies and evaluates alternatives for realignment and closure. This memorandum addresses only our review of your command's participation in the installation assessment process.

b. **Attributes.** The depot reported data values for 20 attributes. DA identified 17 of the attributes as applying to ammunition storage installations. The U.S. Army Industrial Operations Command (Provisional) directed the depot to provide data values for three additional attributes. We reviewed the basis for the values for all 20 attributes. The annex identifies the attributes the depot reported.

4. **Review Results**

a. **Accuracy of Reported Data.** The depot didn't report accurate values for 8 of 20 attributes. For four attributes, the reported value was inaccurate by more than

10 percent. Here are the attributes with inaccuracies of more than 10 percent:

- **Available Workforce.** The depot reported an available workforce of 25,090. It should have reported 29,857. The depot didn't use the correct census information.

- **Buildable Acres.** The depot reported 1,992 buildable acres. It should have reported 494 buildable acres. The depot included 1,498 acres in safety fan areas adjacent to ammunition bunkers. DA guidance for calculating buildable acres specifically excludes safety fan areas. The depot included the safety fan areas because DOD 6055.9-STD (DOD Ammunition and Explosive Safety Standards) allows storage of some materiel in these areas (for example, the inert components of ammunition). The depot reasoned that because the areas can be used to store some materiel, they should be included in the depot's buildable acre inventory.

- **Excess Capacity-Storage.** The depot reported 153,000 square feet of excess storage capacity, based on the Headquarters Real Property Planning and Analysis System (the source specified in the DA installation assessment guidance). Our inspection of the buildings in the depot's calculation showed they contained only 107,000 square feet of available space.

- **Family Housing Cost A Unit.** The depot reported a cost of $5,450 a unit. It should have reported a cost of $9,027. The depot considered only maintenance cost in calculating its value, when it should have included costs for administration, furnishings, services and utilities. When it did the calculations, the depot didn't have the DA-revised guidance to include these additional costs.

For the remaining four attributes, the inaccuracies were less significant. Here are the four attributes with minor inaccuracies:

- **Ammunition Storage.** The depot reported 2,427,000 square feet of ammunition storage space, based on the Real Property Planning System. It should have

reported 2,426,000 square feet of space. The depot's real property records show that the source system included about 1,000 square feet more than it should have.

- **Average Age of Facilities.** The depot reported that the average age of its facilities was 52.5 years. (Again, the number was from the Real Property Planning System.) The depot should have reported either 52 years (if only buildings are included) or 49.5 years (if facilities such as roads and outside storage areas are included). These are the correct numbers based on the depot's real property records.

- **Deployment Network.** The depot reported that the nearest port was 956 miles distant and that the nearest airfield was 76 miles. It should have reported 926 miles for the port and 63 miles for the airfield. The U.S. Government Mileage Guide indicates that the nearest port (Bayonne, New Jersey) is 926 miles away. The nearest airfield with the needed capability is in Moline, Illinois--63 miles away--not in Rockford, Illinois.

- **Encroachment.** The depot reported a population of 36.2 a square mile. It should have reported 35.6. The depot used incorrect census information.

The annex shows the data values that the depot reported and we verified for all 20 attributes.

b. **Data Sources and Methods.** The depot followed the DA installation assessment guidance for determining data values, except for:

- Including safety fan areas in buildable acres.

- Not including all cost factors in the value for family housing cost a unit.

- Using a factor based on the Variable Housing Allowance that service members receive at the depot. The Industrial Operations Command (Provisional) told the depot to use this factor instead of the Cost of Living Index because the depot wasn't included in the index's calculation.

SAAG-NER
SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Savanna Army Depot Activity--INFORMATION MEMORANDUM NR 94-707

c. **Completeness of Records Maintained.** Depot personnel had adequate documentation to support their reported data values. The information was cross-referenced and maintained by the Chief, Installation Support Division.

5. **Discussion of Results.** We discussed the results of our review with Major Richard Thibodeau, Commander and Mr. Arlen Dahlman, Chief, Installation Support Division. They agreed with our conclusions and said the inaccurate data values would be corrected and retransmitted to the Industrial Operations Command (Provisional). This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Robert S. Ball
for HENRY P. CULLERTON
Regional Auditor General

Encl

CF:
Commander, U.S. Army Materiel Command
Basing Study Office
Commander, Industrial Operations Command (Provisional)

DATA ATTRIBUTES REVIEWED

Data Attribute	Unit of Measure	Reported by Savanna Depot	Verified by Army Audit Agency
Ammunition Storage	Square Feet	2,427,000	2,426,000 1/
Available Workforce	Population	25,090	29,857 2/
Average Age of Facilities	Years	52.5	52/49.5 3/
Base Operations and Mission Population	Dollars		
BASOPS Account		$6,058,745	$6,058,745
RPMA Account		4,275,341	4,275,341
Environmental		1,012,321	1,012,321
Audiovisual		143,700	143,700
Base Communications		289,100	289,100
Family Programs		96,479	96,479
Buildable Acres	Acres	1,992	494 4/
Cost of Living	Index	$9.02	$9.02 5/
Deployment Network	Miles		
Railhead		.1	.1
Port		956	926 6/
Airfield		76	63 7/
Highway		52	52
Encroachment	Population a Square Mile	36.2	35.6 2/
Environmental Capacity			
Historic Sites	Number	52	52
Endangered Species	Number	1	1
Wetlands	Percent of Total Acres	6,174	6,174
Total Installation	Acres	13,062	13,062
Air Quality	1 = Attainment	1	1
Water Quality	Violations	0	0
Noise Quality	Acres	0	0
Contaminated Sites	Number	74	74
Excess Capacity			
Storage	Square Feet	153,000	107,000 8/
Information Mission Area	Points	885	885
Infrastructure			
Sewage Treatment	Gallons/Day (Millions)	.36	.36
Water Supply	Gallons/Day (Millions)	7.60	7.60
Electrical	KVA/Day (Millions)	5.50	5.50
Solid Waste Landfill	Dollars/Day (Tons)	$46.20	$46.20
Maintenance Flexibility			
Commodities Reparable	Number	2	2
MCA Cost Factor	Index	1.08	1.08
Permanent Facilities	Percent	96	96
Quantity-Distance	Waivers	0	0
Reserve Training			
Annual	Personnel	95	95
Inactive Duty	Workdays	7,061	7,061

ANNEX

Data Attribute	Unit of Measure	Reported by Savanna Depot	Verified by Army Audit Agency
Other Elements			
Off-Post Adequate Family Units	Number	0	0
On-Post Family Dwelling Units	Number	31	31
Family Housing Cost A Unit	Dollars a Unit	$5,450	$9,027 9/
Locality Pay Factor	Percent	1.03	1.03

NOTES:

1/ Information from the Headquarters Real Property Planning and Analysis System shows 1,286 square feet more for category 42200 than Savanna Depot's real property records show.

2/ The depot didn't use the correct 1990 census information.

3/ Information from the Real Property Planning System shows a higher average age of facilities than the depot's real property records show. Using only buildings, the real property records show an average age of 52. If all facilities at the depot are included (including facilities such as roads and outside storage areas as well as buildings), the real property records show an average age of 49.5

4/ Of the 1,992 acres reported, 1,498 were in safety fan areas. DA guidance excludes safety fan areas from the calculation of buildable acres.

5/ A cost of living index factor wasn't available for the depot area. The depot used DA's Variable Housing Allowance Factor instead.

6/ The U.S. Government Mileage Guide shows the mileage to Bayonne, New Jersey as 926.

7/ The depot used the 76 miles to the Rockford, Illinois airport when the Moline, Illinois airport is closer and has the needed capability. Mileage to the Moline airport is 63.

8/ Our inspection of the general storage buildings showed less storage space available.

9/ The depot included only maintenance costs. It should also have included costs for administration, furnishings, services and utilities.

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NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 15 June 1994

MEMORANDUM FOR Commander, U.S. Communication-Electronics Command and Fort Monmouth, Fort Monmouth, New Jersey 07703-5000

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Fort Monmouth--INFORMATION MEMORANDUM NR 94-708

1. **Introduction.** This is the report on our review of installation assessment that your command did for the 1995 Army Basing Study. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

Our review consisted of:

- Comparing the DA guidance for determining the value of installation assessment attributes with the guidance and method Fort Monmouth used.
- Reviewing the source data and documentation supporting the values Fort Monmouth reported.

- Performing limited tests on the accuracy of the data values reported.

- Verifying the mathematics used to determine the reported values.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 provides a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. The office divided the study process into two phases. Under phase I the Army assesses the relative military value of its installations. Under phase II the Army identifies and evaluates alternatives for realignment and closure. This memorandum addresses only our review of your command's participation in the installation assessment process.

b. **Attributes.** Fort Monmouth reported data values for 11 of the 12 attributes that will be used to assess the relative value of commodity installations. The annex identifies these attributes. DA will provide the value of the 12th attribute--available workforce.

4. **Review Results**

a. **Accuracy of Reported Data.** Fort Monmouth didn't report accurate values for 4 of 11 attributes. Here are the attributes with inaccuracies:

- **Base Operations and Mission Population.** Fort Monmouth reported that it cost $8,702 a year to support each of its 9,668 mission employees. It should have reported a cost of $8,800. Fort Monmouth didn't include the cost of guard services that are reimbursed by customers.

- **Information Mission Area.** Fort Monmouth reported 1,440 points for this area. It should have reported 1,425 points. Fort Monmouth miscalculated the points for having a Teleconference Center.

- **Infrastructure.** Fort Monmouth reported that its infrastructure included an electrical capacity of 65,000 kilovolt-amperes. It should have reported a capacity of 78,000 kilovolt-amperes. It appears

that Fort Monmouth didn't include three transformers in its count.

- **Operational/Administrative Facilities.** Fort Monmouth reported that it had 1,394,635 square feet of this kind of space. It should have reported 1,263,509 square feet. The difference of about 131,000 square feet occurred because Fort Monmouth double-counted the space in two buildings.

The annex shows the data values that Fort Monmouth reported and we verified for all 11 attributes.

b. **Data Sources and Methods.** Fort Monmouth followed the DA installation assessment guidance for determining data values, except for:

- Using a local database (Desk Resource Real Property) in lieu of the DA-specified Headquarters Real Property Planning and Analysis System to determine most of the facility data values reported. The local database is the source for updating the Real Property System.

- Using its Budget Resource Information Management System to calculate the Base Operations and Mission Population value in lieu of the DA-specified Standard Financial System 218 Report. Command personnel said that Fort Monmouth doesn't produce a 218 report.

- Using a factor representing the Variable Housing Allowance that service members receive at Fort Monmouth. The U.S. Army Materiel Command told Fort Monmouth to use this factor instead of the Cost of Living Index because New Jersey wasn't included in the index's calculation.

c. **Completeness of Records Maintained.** Fort Monmouth had adequate documentation to support the reported data values. The documentation was kept by the directorates providing the information (for example, Facility Engineers and Resource Management).

5. **Discussion of Results.** We discussed the results of our review with Mr. John Gemelli (Acting Director) and Mr. Bruce Banasz of the Program Analysis and Evaluation Directorate (the office that coordinated command's reporting). Fort Monmouth agreed with our conclusions and said it would correct the inaccurate values and resubmit them to

SAAG-NER
SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Fort Monmouth--INFORMATION MEMORANDUM NR 94-708

Materiel Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Robert S Rak
for HENRY P. CULLERTON
Regional Auditor General

Encl

CF:
Commander, Materiel Command
Basing Study Office

DATA ATTRIBUTES REVIEWED

Data Attribute	Unit of Measure	Reported by Fort Monmouth	Verified by Army Audit Agency
Average Age of Facilities	Years	43.6	43.6
Base Operations and Mission Population	Dollars/Person a Year	$8,702	$8,800 1/
Buildable Acres	Acres	280.95	280.95
Cost of Living Index	Index Value	1,231.85	1,231.85 2/
Environmental Capacity			
Historic Sites	Number	0.72	0.72
Endangered Species	Number	0	0
Wetlands	Percent of Total Acres	.073	.073
Air Quality	10 = Not in Attainment	10	10
Water Quality	Violations	0	0
Noise Quality	Acres	0	0
Contaminated Sites	Number	0	0
Information Mission Area	Points	1,440	1,425 3/
Infrastructure			
Sewage Treatment	Gallons/Day (Millions)	65,000	78,000 4/
Water Supply	Gallons/Day (Millions)	5.40	5.40
Electrical	KVA/Day (Millions)	4.17	4.17
Solid Waste Landfill	Dollars a Ton	$68.70	$68.70
MCA Cost Factor	Index	1.19	1.19
Operational/Administrative Facilities	Square Feet	1,394,635	1,263,509 5/
Permanent Facilities	Percent	90.2	90.2
Research and Development Facilities	Square Feet	728,555	728,555

NOTES:

1/ Command didn't include $947,401 of costs for reimbursable guard service. By doing so, we increased the cost to support the mission population of 9,668 to $8,800 a person.

2/ This is a factor representing the Variable Housing Allowance service members receive at Fort Monmouth. The U.S. Army Materiel Command told command to use this factor instead of the Cost of Living Index because New Jersey wasn't included in index's calculation.

3/ Fort Monmouth overstated the points for having a Teleconference Center by 15 because of an arithmetic mistake (the factor was multiplied by 20 instead of 15).

4/ Total kilovolt-amperes (KVA) is 78,000, not 65,000. Evidently, Fort Monmouth didn't count three transformers at two substations.

5/ Fort Monmouth counted two buildings twice. One building with 46,248 square feet was counted twice. Another with 84,878 square feet was counted once as existing administrative space and again as a conversion to administrative space in the planned construction category.

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DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 15 June 1994

MEMORANDUM FOR Commander, Tobyhanna Army Depot, ATTN: SDSTO-IR, Tobyhanna, Pennsylvania 18466-5000

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Tobyhanna Army Depot--INFORMATION MEMORANDUM NR 94-710

1. **Introduction.** This is the report on our review of installation assessment that your command did for the 1995 Army Basing Study. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review. Our review consisted of:

- Comparing DA guidance for determining the value of installation assessment attributes with the guidance and method Tobyhanna Army Depot used.
- Reviewing the source data and documentation supporting the values the depot reported.
- Verifying the mathematics used to determine the reported values.

We also performed limited tests on the accuracy of the data values reported. This included:

- Visiting offices to validate the accuracy of equipment and real property records.

- Reviewing installation master plans to determine the extent to which improvements were recognized and planned.

- Reviewing maps, environmental studies and other available reports to recalculate and verify the accuracy of reported data values.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 provides a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. The office divided the study process into two phases. Under phase I the Army assesses the relative military value of its installations. Under phase II the Army identifies and evaluates alternatives for realignment and closure. This memorandum addresses only our review of your command's participation in the installation assessment process.

b. **Attributes.** Tobyhanna Depot reported data values for all 17 of the attributes that will be used to assess the relative value of maintenance depots. The annex identifies these attributes.

4. **Review Results**

a. **Accuracy of Reported Data.** Tobyhanna Depot didn't report accurate values for 3 of 17 attributes. Here are the attributes with inaccuracies:

- **Excess Storage Capacity.** Tobyhanna Depot reported 260,000 square feet of excess storage capacity. It should have reported 240,000 square feet. The depot included 20,000 square feet of space that supports the depot's maintenance mission. Our figure represents only excess supply storage space. DA guidance wasn't clear on whether activities should include maintenance storage space. We believe the attribute is intended to include only supply storage capacity.

- **MCA Cost Factor.** The depot reported a cost factor of .91. It should have reported a factor of 1.06.

Depot personnel believed that the factor of 1.2 in the DA-directed source document was too high. They therefore analyzed commercial guides and recent contracts and concluded that .91 was a more accurate figure. We contacted the U.S. Army Corps of Engineers (the source of the data in the DA-directed document). The Corps agreed that the currently published factor of 1.2 was too high, but said the depot's factor of .91 was too low. The Corps changed the rate for the depot to 1.06 in a revised document now awaiting signature at DOD.

- **Reserve Training.** The depot reported that 3,438 Reserve personnel took their annual training there and that 9,682 workdays of inactive duty training was performed at the depot. It should have reported numbers of 1,420 and 9,429, respectively. The depot based both figures on the number of Reserve personnel "projected" to train at the depot. The annual training figure also included personnel from units who stopped at the depot on the way to their actual annual training site. Our figure is the number of personnel who actually trained at the depot.

b. **Data Sources and Methods.** Tobyhanna Depot followed the DA installation assessment guidance for determining data values except for two attributes:

- The MCA cost factor discussed earlier.

- The depot's available workforce figure. The depot reported a figure of 592,419, representing the workforce from the 5 counties surrounding the depot (Carbon, Lackawanna, Luzerne, Monroe and Wayne). DA guidance was to use only Monroe County (where the depot is located), which has an available workforce of 73,326. We accepted the depot's reported figure because 80 percent of the its current workforce lives in the four counties it included. The depot clearly draws workers from beyond Monroe County.

The DA-directed source for two other attributes (supply capacity and excess storage capacity) may also result in inaccurate data values. In both cases the depot used the DA-directed source. It reported the figures in the current version (June 1993) of the Defense Logistics Agency's DD

SAAG-NER
SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment, Tobyhanna Army Depot--INFORMATION MEMORANDUM NR 94-710

Form 805 (Storage Utilization/Occupancy and Analysis Report). This report showed 1,231,000 square feet of supply storage space at the depot, of which 240,000 square feet was excess. These numbers are no longer current. In May 1994 the Logistics Agency remeasured the depot's storage space and concluded there was only 975,000 square feet of space available (a reduction of about 20 percent) and that only 139,000 was excess. The biggest changes are that the agency no longer considers some areas to be adequate storage space and reclassified some space from supply to maintenance. Agency personnel said the remeasurement will be reflected in a June 1994 revision to the DD Form 805 report. (The agency may have remeasured other depots. They also could have less storage space.)

c. **Completeness of Records Maintained.** Tobyhanna Depot had adequate documentation to support its reported data values. The depot appointed an administrator who maintained files in accordance with DA guidance. Each data value had its own file that was clearly marked and secured. Each file contained copies of the source data.

5. **Discussion of Results.** We discussed the results of our review with the Commander, Tobyhanna Depot and members of his staff on 3 June 1994. They agreed with our conclusions and said they would correct and resubmit inaccurate data. However, they didn't agree to reduce the amount of available and excess storage space reported. They believed that some of the Logistics Agency's criteria for judging storage space as "inadequate" should be reevaluated. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Robert S. Roth
for HENRY P. CULLERTON
Regional Auditor General

Encl

CF:
Commander, U.S. Army Materiel Command
Basing Study Office
Commander, U.S. Army Depot System Command

DATA ATTRIBUTES REVIEWED

Data Attribute	Unit of Measure	Reported by Tobyhanna Army Depot	Verified by U.S. Army Audit Agency
Available Workforce	Population	592,419	592,419 1/
Average Age of Facilities	Year	34.4	34.4
Buildable Acres	Acres	873	873
Deployment Network	Miles		
Railhead		0	0
Port		105	105
Airfield		22	22
Highway		.2	.2
Encroachment	Population a Square Mile	158	158
Environmental Capacity			
Historic Sites	Number	0	0
Endangered Species	Number	0	0
Wetlands	Percent of Total Acres	15	15
Air Quality	10 = Not in Attainment	10	10
Water Quality	Violation	0	0
Noise Quality	Acres	0	0
Contaminated Sites	Number	64	64
Excess Capacity			
Maintenance	Square Feet	520,000	520,000
Storage	Square Feet	260,000	240,000 2/
Information Mission Area	Points	1,170	1.170
Infrastructure			
Sewage Treatment	Gallons/Day (Millions)	0.802	0.802
Water Supply	Gallons/Day (Millions)	0.936	0.936
Electrical	Kilowatts/Day (Millions)	0.3	0.3
Solid Waste Landfill	Dollars/Ton	$58.22	$58.22 3/
Installation and Base Operating Expense	Dollars	$10.22	$10.22
MCA Cost Factor	Index	.91	1.06 4/
Maintenance Capacity	Direct Labor Hours	4,633,435	4,633,435
Maintenance Flexibility			
Commodities Reparable	Number	13	13
Mission Overhead	Dollars/Direct Labor Hour	$10.34	$10.34
Permanent Facilities	Percent	97.1	97.1
Reserve Training			
Annual	Personnel	3,438	1,420 5/
Inactive Duty	Workdays	9,682	9,429 6/
Supply Capacity	Square Feet	1,231,000	1,231,000 7/

NOTES:

1/ Tobyhanna Depot's figure of 592,419 represents the available workforce from the 5 counties surrounding the depot (Carbon, Lackawanna, Luzerne, Monroe and Wayne).

DA guidance was to use only the county the depot is located in (Monroe), which has an available workforce of 73,326. Because 80 percent of the depot's current workforce lives in the four other counties, we accepted the depot's figure of 592,419.

2/ The depot interpreted DA guidance to include both maintenance (20,000 square feet) and supply (240,000 square feet) of excess storage space. Our figure (240,000 square feet) excludes the maintenance storage space. Also, the Defense Logistics Agency intends to reduce the depot's excess supply storage capacity to 139,000 square feet in a pending update to the source of this information.

3/ The figure $58.22 represents only the fee the landfill charges. It doesn't include the cost of transportation to the landfill. With transportation expenses, the cost would be $161.40 a short ton. DA guidance wasn't clear about what costs were to be included in this data attribute.

4/ The DA-directed source document showed a factor of 1.20. The depot believed this was high. Consequently, it analyzed commercial construction cost guides and recent contracts and concluded that .91 was a more accurate figure. We contacted the U.S. Army Corps of Engineers (the source of the data in the DA document). The Corps told us it considered 1.20 high and .91 low, and that the rate for Tobyhanna was changed to 1.06 in a pending revision now at DOD for approval.

5/ The depot's annual training figure is based on the number of personnel who were "projected" to take their annual training at the depot. It also included personnel from units who "stopped off" at the depot on their way to their actual training site. Our figure is the number of personnel who actually did their training at the depot.

6/ The depot's inactive duty training figure was also based on projections. Our figure was based on actual attendance.

7/ The DA-directed source showed 1,231,000 square feet of space. However, the Logistics Agency intends to reduce the depot's supply capacity to 975,000 square feet in a pending update to this source.

DATA ELEMENTS REVIEWED

DATA ELEMENT	UNIT OF MEASURE	REPORTED BY WHITE SANDS	VERIFIED BY ARMY AUDIT AGENCY
Average Age of Facilities	Years per Square Foot	33.40	35.37[1]
Buildable Acres	Acres	260,480	270,895[2]
Environmental Capacity	Composite Index		
Archeology		.04	.04
Endangered Species		8	8
Wetlands		1,030	NONE[3]
Air Quality		1	1
Water Quality		0	NONE[3]
Noise Quality			
Zone II		0	NONE[3]
Zone III		0	NONE[3]
Contaminated Sites		75	75
Information Mission Area	Various	1,175	1,250[4]
Infrastructure			
Water	Gallons	5,501,000	8,592,000[5]
Sewage	Gallons	1,000,000	1,000,000
Electrical Distribution	Killowatt Hours	155,000,000	434,846,400[6]
Landfill	Dollars	$1.16	$1.15[7]
Percent Permanent Facilities	Percent	77.30	79.22[8]
Test and Evaluation Mission Diversity			
Commodity Areas	Each	23	23
Test and Evaluation Facilities			
Facilities	Square Feet	1,578,736	1,578,736
Equipment	Dollars	$1,042,344,000	$1,009,490,299[9]
Test and Evaluation Ranges			
Ranges	Each	14	14
Acreage	Acres	2,353,208	2,353,208

1/ The installation used the Integrated Facilities System database to compute the average age of facilities. DA guidance required the use of the April 1994 Headquarters Real Property Planning and Analysis System database and a weighted average.

2/ The installation didn't report 10,415 additional acres identified by operating personnel.

3/ Wetlands, water quality, and noise quality factors haven't been determined.

4/ The information mission area data value was understated by 75 points because the installation didn't report Direct Access Storage Devices.

5/ Water capacity was recalculated at our request.

6/ Electrical distribution was recalculated at our request.

7/ The cost for landfill was recalculated at our request. The difference is due to rounding.

8/ Two construction projects in the Military Construction, Army appropriation weren't included in the reported value.

9/ Equipment value was overstated by $32,853,701. This overstatement occurred because (i) the equipment value wasn't added correctly, (ii) equipment valued at less than $100,000 was included in the reported value, and (iii) replacement cost was used instead of investment cost.

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DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 28 July 1994

MEMORANDUM FOR Commander, Letterkenny Army Depot, ATTN: SDSLE-CI, Chambersburg, Pennsylvania 17201

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups, Letterkenny Army Depot--INFORMATION MEMORANDUM NR 94-713

1. **Introduction.** This is the report on our review of the data your command provided for the Depot Maintenance data call for the DOD cross-service work group. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group, DA and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished the depot maintenance cross-service group, we:

- Reviewed cross-service work group, DA and major command guidance and compared it with procedures used by Letterkenny Army Depot personnel to respond to the cross-service group data call.
- Interviewed personnel from the Directorates of Integrated Logistics Support, Maintenance and Ammunition Operations, the Public Works Center, and the

Administrative Management Office who helped prepare, review and validate responses to the data elements.

- Reviewed support agreements, area and installation maps, floor plans, contracts, budget data, program notices, travel documents, the Letterkenny Depot Capabilities 1990-2000 report, and Military Construction Project Data Forms (DD Forms 1391).

- Compared selected data in the Integrated Facilities System to Real Property Records (DA Forms 2877).

- Toured maintenance facilities at Letterkenny Depot.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. On 7 January 1994 the Deputy Secretary of Defense established six DOD-led work groups to evaluate opportunities for cross-service base closure and realignment actions. The work groups are:

- Military Treatment Facilities and Graduate Medical Education Centers.

- Test and Evaluation Facilities.

- Laboratories.

- Undergraduate Pilot Training.

- Depot Maintenance.

- Economic Impact.

Each of the work groups prepared a data call requiring activities to provide general information needed to assess and identify cross-Service opportunities.

b. **Army Process.** Army guidance required responses from each activity identified in the cross-service data calls. Activities were to furnish these responses to their major commands. The major commands provided certified data

to the Army Basing Study Office. The Office will then provide data to each of the cross-service work groups. This memorandum addresses your command's response to the Army Basing Study Office for the depot maintenance data call.

c. **Depot Maintenance Data Call.** The depot maintenance data call consisted of 39 data elements. The elements included a mix of objective and subjective questions about a depot's mission, workload and facilities. The questions were developed by the DOD work group to identify cross-service opportunities. Individual depots provided the information for 32 elements, the U.S. Army Materiel Command for one and the Depot System Command for six (maintenance depots are subordinate activities of the Depot System Command).

We evaluated the accuracy and support for 14 of the 32 data elements provided by Letterkenny Depot. We will report separately on the data elements provided by the Depot System Command and Army Materiel Command. The 14 depot-provided data elements were selected for review by DOD.

4. **Results of Review.** Overall, the depot provided data that was generally accurate. The depot reported accurate data for 10 of the 14 elements we reviewed. And, only one of the errors was significant---the depot understated the workload and potential savings from its Paladin Enterprise. Two other errors involved unit of measure misstatements and one error slightly understated the total space available for expansion. Details on the elements reviewed and differences noted are in the annex. Conclusions on specific objectives follow.

a. **Accuracy of Reported Data.** Letterkenny Depot reported accurate data for 10 of 14 elements.

(1) **Accurate Data.** Here are the data elements the depot reported accurate data for.

Title	Data Elements
Location	1.1
Other Collocated Activities	4.1, 4.2, 4.3
Unique or Peculiar Facilities	6.1, 6.2, 6.3
Buildings and Their Condition	7.1
Unique and/or Peculiar Capabilities and Capacities	8.1
Interface with Customers	17.1

We didn't verify the uniqueness of the facilities, capabilities, capacities or workloads that Letterkenny Depot reported. We only verified their existence.

(2) **Inaccurate Data.** Letterkenny Depot reported inaccurate data for 4 elements.

(a) **Buildings and their Condition (Data Element 7.2).** Letterkenny Depot reported that about 2,400 square feet was available for expansion in category 44110. Our review showed that the space available for expansion in this category should be about 4,000 square feet.

(b) **Unique and/or Peculiar Capabilities and Capacities (Data Element 8.2).** Letterkenny Depot reported it had two capabilities that were unique to the Army or DOD: an emission control system and the Paladin Enterprise. The data reported for the emission control system was accurate, but some of the information on the Paladin Enterprise was inaccurate. The depot reported:

- Different production quantities for the Paladin. One paragraph cited a quantity of 750 Paladin systems; another paragraph showed a quantity of 824 systems. According to the Product Manager for Paladin and the contract, the production quantity should be 824.

- Savings of about $32 million for the Paladin multiyear contract. Budget data provided by the product manager supported savings of about $46 million for FYs 93-96.

(c) **Unique and/or Peculiar Workloads (Data Elements 15.1 and 15.2).** Letterkenny Depot used the wrong unit of measure in reporting its core and non-core workload. The depot didn't adjust the numbers it reported to show a change from the "Millions of Labor Hours" provided by the Depot System Command to the simply "Labor Hours" it was reporting. For example, the depot reported its core workload for tactical missiles as .499 direct labor hours instead of 499,000 hours (.499 Million Hours).

Depot personnel agreed to correct the inaccuracies we identified.

b. **Supporting Documentation.** Letterkenny Depot maintained adequate supporting documentation for the elements we reviewed.

SAAG-NER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups, Letterkenny Army Depot--INFORMATION MEMORANDUM NR 94-713

c. **Compliance with Cross-Service, DA and Major Command Guidance.** The depot used DOD cross-service work group, DA and major command guidance to gather and report the data for the elements we reviewed.

5. **Discussion of Results.** We discussed the results of our review with Mr. Lynn Ramsey, Strategic Management Specialist, Directorate of Integrated Logistics Support on 14 July 1994. He agreed with our conclusions and said that he had or would correct and retransmit the data to Depot System Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

For HENRY P. CULLERTON
Regional Auditor General

Encl

CF:
Inspector General, DOD
Army Basing Study Office
Commander, Army Materiel Command
Commander, Depot System Command

DATA ELEMENTS REVIEWED

Location (Element 1.1)

Letterkenny Army Depot reported the major highways, truck lines, ports and airfields which were accessible to the depot.

We verified the accuracy of the data.

Other Collocated Activities (Elements 4.1, 4.2 and 4.3)

The depot reported 15 collocated activities. It included the:

- Benefits and relationship of the collocated activities to the depot maintenance activity.
- Support provided by the collocated activities to the depot maintenance activity.
- Effect if the activities weren't collocated.

We verified the existence of the collocated activities.

Unique or Peculiar Facilities (Elements 6.1, 6.2 and 6.3)

The depot listed seven unique or peculiar facilities:

- Antenna Pattern Testing Facility.
- Radar Testing Site.
- Firing Range.
- Vehicle Test Track Complex.
- Radiographic Inspection Facility.
- Laboratory Facilities.
- Radiographic Inspection Facility.

(Auditor's Note: The radiographic inspection facility was inadvertently listed twice. Depot personnel agreed to remove the duplication.)

The depot provided a description of the facilities and explained the impact on maintenance operations if the facilities weren't available. We verified the existence of each unique or peculiar facility.

DATA ELEMENTS REVIEWED

Buildings and Their Condition (Elements 7.1 and 7.2)

In element 7.1 the depot provided the square footage of buildings used for depot maintenance by category and condition:

Category	Type of Facility	Area by Condition		
		Adequate	Substandard	Inadequate
		(Thousands of Square Feet)		
* 14150	Box and Crate	0	18.90	0
17123	Range Support	2.75	0	0
** 21210	General Maintenance	289.98	23.16	0
21430	Vehicle Maintenance	3.20	0	0
21435	Rebuild Shop	327.39	0	0
21440	Vehicle Component Rebuilding	98.08	0	0
21530	Heavy Gun Shop	31.62	0	0
21612	Ammunition Surveillance	4.71	0	0
21652	Quality Assurance	7.95	0	0
21710	Electronics Maintenance	9.34	0	0
21815	Non-Table of Organization and Equipment Support Maintenance	12.32	0	0
21885	Maintenance, General Purpose	39.60	0	0
21887	Optical Repair Shop	21.56	0	0
21888	Canvas and Leather Shop	15.77	0	0
22840	Printing	.43	0	0
31510	Ordnance	1.23	0	0
44110	General Purpose Warehouse	25.60	0	0
44130	Controlled Humidity Warehouse	54.76	0	0
44180	Open Warehouse	54.74	0	0
44262	Vehicle Storage	2.18	0	0
44270	General Storehouse	20.48	0	0
44280	Open Warehouse	6.00	0	0
61050	Administrative	18.90	0	0
Total		1,048.59	42.06	0

* Building 422 will be upgraded due to Base Closure and Realignment 1993 missile transition (Auditor's Note: Building 426, not 422, will be upgraded).

** Buildings 11 and 12 will be upgraded due to Base Closure and Realignment 1993 missile transition.

We verified the accuracy of the data.

DATA ELEMENTS REVIEWED

Buildings and Their Condition (Continued)

In element 7.2 the depot provided the square footage of buildings with space available for expansion. Here's the expansion space the depot reported in buildings it controlled.

Type of Building	Category	Installation Space by Condition		
		Adequate	Substandard	Inadequate
		(Thousands of Square Feet)		
Missile Maintenance	21210	29.8	4.7	30
Ammunition Renovation	21610	14.3	3.4	0
Inspection Workshop	21612	12.2	0	0
Loading Facility	21690	11.0	0	0
Maintenance Sustainment	21815	12.3	0	0
Optical Repair Shop	21887	4.7	0	0
Magazine	42182	0	11.3	0
General Purpose Warehouse	44110	2.4	0	0
Controlled Humidity Warehouse	44130	25.4	0	0
Total		112.1	19.4	30

The 2,400 square feet reported for category 44110 is inaccurate. Our review showed there is 4,000 square feet available for expansion. Letterkenny Depot agreed to correct the error. We verified the accuracy of remaining measurements.

The depot also reported that 1,167,384 square feet of space used by the Defense Logistics Agency was available for expansion of the maintenance mission. The space is now used by the logistics agency to store wholesale supply and war reserve materiel. Although the space is in the maintenance area of the depot, this materiel would have to be relocated before the space could be used for maintenance.

DATA ELEMENTS REVIEWED

Unique and/or Peculiar Capabilities and Capacities (Elements 8.1 and 8.2)

In element 8.1 the depot described 25 unique and/or peculiar capabilities and capacities. We didn't verify the uniqueness of the capabilities and capacities. But, we did verify that the capabilities and capacities existed.

In element 8.2 the depot described two capabilities unique to the Army or DOD:

- Emission control system.
- Paladin Enterprise.

The data for the emission control system was accurate. However, the description of the Paladin Enterprise contained some inaccurate numbers. The depot reported:

- Different production quantities for the Paladin. One paragraph cited a quantity of 750 Paladin systems; another paragraph showed a quantity of 824 systems. According to the Product Manager for Paladin and the contract, the production quantity should be 824.
- Savings of $32 million for the Paladin multiyear contract. Budget data provided by the product manager supported savings of $46 million for FYs 93-96.

Depot personnel agreed to change these numbers.

DATA ELEMENTS REVIEWED

Unique and/or Peculiar Workloads (Elements 15.1 and 15.2)

For data element 15.1 the depot reported the total core workload that was unique and/or peculiar:

Commodity Group	Workload FY 96	FY 97	FY 98	FY 99
	(Direct Labor Hours)			
Missiles Tactical	.499	.474	.517	.523
Combat Vehicles, Self-Propelled	1.180	1.208	.618	.416
Combat Vehicles, Towed	.033	.035	.032	.042
Total	1.712	1.717	1.167	.981

Letterkenny Depot personnel used workload data developed by the Depot System Command for Data Element 13.1. But, Letterkenny didn't adjust the data to accurately convert from the "Millions of Direct Labor Hours" reported by the Depot System Command to the "Direct Labor Hours" it reported. For example, Letterkenny should have reported 499,000 direct labor hours for tactical missiles, not .499 hours. We didn't review the Depot System Command's support for the data it developed. We will do so separately as part of our review of that command's participation in the data call.

For data element 15.2 the depot reported the non-core workload that was unique and/or peculiar:

Commodity Group	Workload FY 96	FY 97	FY 98	FY 99
	(Direct Labor Hours)			
Missiles Tactical	.696	.760	.817	.979
Combat Vehicles, Self-Propelled	0	0	0	0
Combat Vehicles, Towed	0	0	0	0
Ground General Equipment Munitions	0	0	0	0
Generators	.047	0	0	0
Other	.006	0	0	0
Total	.749	.760	.817	.980

As with the previous Data Element 15.2, Letterkenny Depot used workload data developed by Depot System Command without accurately adjusting for the change in unit of measure. There was also one other minor error---the "Other" commodity group should include 1,000 direct labor hours for FY 99.

ANNEX

DATA ELEMENTS REVIEWED

Interface with Customers (Element 17.1)

The depot reported that it provided six services to customers:

- System Integration Check Out.
- New Equipment Training.
- Total Package Fielding.
- Pre-Production Planning.
- Technical Assistance.
- Nuclear, Biological and Chemical Air Filter Test Program.

We verified the accuracy of the data.

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DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 12 August 1994

MEMORANDUM FOR Commander, Tobyhanna Army Depot, ATTN: SDSTO-IR, Tobyhanna, Pennsylvania 18466-5000

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups, Tobyhanna Army Depot--INFORMATION MEMORANDUM NR 94-714

1. **Introduction.** This is the report on our review of the data your command provided for the depot maintenance data call for the DOD Cross-Service Work Group. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-Service work groups. Our specific objective was to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-Service work group, DA, and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review. To evaluate the accuracy of data furnished the DOD cross-Service group, we:

- Reviewed cross-Service work group, DA and major command guidance and compared it with procedures used by Tobyhanna Depot personnel to respond to the cross-Service group data call.
- Interviewed personnel from collocated activities, Directorates of Resource Management, Maintenance, Public Works, and the Command Group who helped prepare, review and validate responses to the data elements.

- Reviewed area and installation maps, floor plans, budget data, Installation Master Plans, Capability Engineering Data Reporting System reports, industrial engineering studies, and strength reports.

- Toured maintenance facilities.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. On 7 January 1994, the Deputy Secretary of Defense established six DOD-led work groups to evaluate opportunities for cross-Service base closure and realignment actions. The work groups focused on:

- Medical Treatment Facilities and Graduate Medical Education Centers.

- Test and Evaluation Facilities.

- Laboratories.

- Undergraduate Pilot Training.

- Depot Maintenance.

- Economic Impact.

Each of the work groups prepared a data call requiring activities to provide general information needed to assess and identify the cross-Service opportunities.

b. **Army Process.** Army guidance required responses from each activity identified in the cross-Service data calls. Activities were to furnish the responses to their major commands. The major commands provided certified data to the Army Basing Study Office. The Army Basing Study Office will then provide data to each of the cross-Service work groups. This memorandum addresses your command's response to the depot maintenance data call.

c. **Depot Maintenance Data Call.** The depot maintenance data call consisted of 39 elements. The elements

included a mix of objective and subjective questions about a depot's mission, workload and facilities. The questions were developed by the DOD work groups to identify cross-Service opportunities. Individual depots provided the information for 32 elements, U.S. Army Materiel Command for 1 element and U.S. Army Depot System Command for 6 elements (maintenance depots are subordinate activities of the Depot System Command). We evaluated the accuracy and supporting documentation for 14 of the 32 data elements reported by Tobyhanna Depot. We will report separately on the data elements provided by the Materiel and Depot System Commands.

4. **Results of Review.** Tobyhanna Depot generally provided accurate data. The depot accurately reported 9 of the 14 elements reviewed. Only 2 of the inaccuracies were significant: the depot overstated the space available for expansion (data element 7.2) and its unique/particular core workload (element 15.1). The three other inaccuracies slightly misstated the depot's distance from a seaport (element 1.1), the space used for maintenance (element 7.1) and the depot's non-core unique or peculiar workload (element 15.2). Details on the elements reviewed and differences noted are in the annex. Conclusions on specific objectives follow.

a. **Accuracy of Reported Data.** Tobyhanna Depot reported accurate data for 9 of 14 elements.

(1) **Accurate Data.** Here are the elements the depot reported accurate data for:

Title	Data Elements
Other Collocated Activities	4.1, 4.2, 4.3
Unique or Peculiar Facilities	6.1, 6.2, 6.3
Unique and/or Peculiar Capabilities and Capacities	8.1, 8.2
Interface with Customers	17.1

We verified the existence of the unique facilities, capabilities, capacities or workloads that Tobyhanna Depot reported. We didn't verify their uniqueness.

(2) **Inaccurate Data.** The depot reported inaccurate data for five elements.

(a) **Location (Data Element 1.1).** The depot reported that the nearest port was 1 hour away by road. The port (Bayonne New Jersey) is a distance of about 105 miles, or about 2 hours driving. We consider this a minor error.

(b) **Buildings and Their Condition (Data Element 7.1).** The depot reported that it had 1,145,237 square feet of electronic maintenance space (category 21710). We identified arithmetic errors that overstated the amount by 5,810 square feet. Depot personnel agreed to change their reported figure to 1,139,427 square feet. We consider this a minor error.

(c) **Space Available for Expansion (Data Element 7.2).** The depot reported 2,142,943 square feet of space available for expansion: 495,293 square feet of electronic maintenance space and 1,647,650 square feet of warehouse space. The reported figure overstated the amount of maintenance space by about 154,000 square feet, and we consider this a significant error. In making its estimate, the depot took about 40 percent of the gross space in existing maintenance buildings and added planned new construction. The depot used a percentage of existing space because 40 percent of its existing workstations are unstaffed. However, this approach overstated the potential for expansion because much of a maintenance building's gross space (such as aisles, restrooms, washup areas and break rooms) isn't used for workstations. The depot agreed, and its industrial engineering activity recalculated an estimated expansion potential of 341,500 square feet. We reviewed the engineering analysis and found it reasonable. The depot agreed to report that it had an expansion potential of 341,500 square feet (not 495,293) in maintenance buildings.

(d) **Unique and/or Peculiar Core and Non-Core Workloads (Data Elements 15.1 and 15.2).** The depot made arithmetic and transposition errors that overstated the communications-electronics workload associated with the unique capabilities it reported. Here are the direct labor hours the depot reported and the hours it should have reported:

SAAG-NER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups, Tobyhanna Army Depot--INFORMATION MEMORANDUM NR 94-714

Core	FY 96	FY 97	FY 98	FY 99
Depot	468,000	445,000	452,000	445,000
Auditors	424,000	404,000	410,000	403,000
Non-Core				
Depot	0	22,000	15,000	23,000
Auditors	0	20,000	14,000	21,000

We consider error in the core workload to be significant. The depot agreed to submit correct direct labor hours for both data elements.

b. **Supporting Documentation.** The depot had adequate documentation for the data elements we reviewed.

c. **Compliance with Cross-Service, DA and Major Command Guidance.** The depot used cross-Service work group, DA and major command guidance to gather and report the data for the 14 elements reviewed.

5. **Discussion of Results.** We discussed the results of our review with Mr. Robert Haas, Chief Productivity Branch, Resource Management on 18 July 1994. He agreed with our conclusions and said the depot would submit new data to the Depot System Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

HENRY P. CULLERTON
Regional Auditor General

CF: w encl
Inspector General, DOD
Army Basing Study Office
Commander, Materiel Command
Commander, Depot System Command

DATA ELEMENTS REVIEWED

Location (Element 1.1)

Tobyhanna Army Depot reported the major railways, highways, sea and air facilities which were accessible to the depot.

We identified one minor mistake in the statement. The depot reported that the Bayonne, New Jersey seaport is approximately 1 hour away. Bayonne is 105 miles away, or about 2 hours by road.

Depot personnel agreed to make the change.

Other Collocated Activities (Elements 4.1, 4.2 and 4.3)

The depot reported five collocated activities related to the depot maintenance mission. The depot included the:

- Benefits and relationship of the collocated activities.
- Support provided by the collocated activities.
- Effect if the activities weren't collocated.

We verified the existence of the activities and the depot's relationship statements by visiting the collocated activities and interviewing supervisory personnel.

Unique or Peculiar Facilities (Elements 6.1, 6.2 and 6.3)

The depot listed 13 unique or peculiar facilities:

- Communication Security Facility.
- Satellite Communications Facility.
- Reserve Component Training, High-Tech Regional Training Site/Maintenance.
- Environmental Stress Screening Production Laboratory.
- U.S. Army Material Command Logistics Support Activity Packaging, Storage and Containerization Center.
- Digital Communication Satellite Subsystem Prototype Room.
- Industrial Operations Facility.
- Tactical End Item Repair Facility.
- Sensitive Compartmented Information Facility.
- Hazardous Material Spill Control Facility.
- Clean Room, Instrument Repair Facility.
- Paint Curing System.
- Automatic Test Equipment/Test Program Sets Support Facility.

DATA ELEMENTS REVIEWED

Unique or Peculiar Facilities (Continued)

The depot described each facility and explained why it was needed. We verified the existence of each facility. We didn't verify their uniqueness.

Buildings and Their Condition (Elements 7.1 and 7.2)

In element 7.1 the depot reported that the 16 buildings used for electronics maintenance (category 21710) had 1,145,237 square feet of adequate space and 37,222 square feet of substandard space.

We identified arithmetic errors that overstated adequate space by 5,810 square feet. Depot personnel agreed to correct the errors and change their reported figure for adequate space to 1,139,427 square feet.

In element 7.2 the depot provided the square footage of buildings with space available for expansion:

Type of Building	Category	Underused Space (Square Feet)
Electronic Maintenance	21710	495,293
General Purpose Warehouse	44110	852,811
Controlled Humidity Warehouse	44130	794,839
Total		2,142,943

Electronics Maintenance Space. The 495,293 square feet of space reported as available for expansion is overstated by about 154,000 square feet. The figure reported is 40 percent of the gross space in existing maintenance buildings plus planned new construction. The depot calculated this number based on the fact that 40 percent of its current workstations are unstaffed.

$$\frac{3020 - 1810}{3020} \times 1{,}145{,}237 + 36{,}440 = 495{,}293 \text{ square feet}$$

We concluded that the depot's analysis overstated the potential for expansion, mainly because much of a maintenance building's gross space isn't used for workstations. For example, aisles for moving material and people in, out, around and through the building; restrooms; washup areas; and break rooms. The depot agreed.

DATA ELEMENTS REVIEWED

Buildings and Their Condition (Continued)

A subsequent analysis by the depot's industrial engineering activity resulted in an expansion potential estimate of 341,500 square feet.

The study concluded that 1,937 additional workstations could be placed in the space now occupied by 3,020 workstations and that workstations could be placed in 30,000 square feet of space not now used for this purpose. We reviewed the engineering analysis and found it to be reasonable. The depot agreed to report an expansion potential of 341,500 square feet (not 495,293) in its electronics maintenance buildings.

Warehouse Space. As reported by the depot, the 852,811 and 794,839 square feet of warehouse space is now used by the Defense Logistics Agency.

Unique and/or Peculiar Capabilities and Capacities (Elements 8.1 and 8.2)

In element 8.1 the depot described 15 unique and/or peculiar capabilities and capacities. We verified the existence of these capabilities and capacities. We didn't verify their uniqueness.

In element 8.2 the depot described five depot maintenance facilities and equipment which are one of a kind within the Army or DOD.

- Communication Security Facility.
- Satellite Communication Facility.
- Digital Communications Satellite Subsystem Prototype Room.
- Automatic Test Equipment/Test Program Sets Support Facility.
- Environmental Stress Screening Production Laboratory.

We verified the existence of each facility. We didn't verify their uniqueness.

DATA ELEMENTS REVIEWED

Unique and/or Peculiar Workloads (Elements 15.1 and 15.2)

For data element 15.1, the depot reported the total core workload for five unique operations:

Communications-Electronics

- Computer Numerically Controlled Manufacturing
- Computer-Aided Engineering
- Test Program Sets
- Satellite Communications

Special Interest

- Communication Security Facility

Commodity Group	Workload FY 96	FY 97	FY 98	FY 99
	(Thousands of Direct Labor Hours)			
Communications-Electronics	468	445	452	445
Special Interest	168	168	168	168

The depot made arithmetic and transposition errors in compiling this data from source documents. The correct numbers are:

Auditors' Results	Workload FY 96	FY 97	FY 98	FY 99
	(Thousands of Direct Labor Hours)			
Communications-Electronics	424	404	410	403
Special Interest	168	168	168	168

The depot agreed to correct its submission.

For data element 15.2 the depot reported the non-core workload that was unique and/or peculiar:

Commodity Group	Workload FY 96	FY 97	FY 98	FY 99
	(Thousands of Direct Labor Hours)			
Communications-Electronics	0	22	15	23
Special Interest	0	0	0	0

DATA ELEMENTS REVIEWED

Unique and/or Peculiar Workloads (Continued)

As in data element 15.1, the depot made arithmetic and transposition errors in compiling this data. Here are the correct numbers:

Auditors' Results	Workload FY 96	FY 97	FY 98	FY 99
	(Thousands of Direct Labor Hours)			
Communications-Electronics	0	20	14	21
Special Interest	0	0	0	0

The depot agreed to make the change.

Interface with Customers (Element 17.1)

The depot performs:

- Onsite technical assistance to include system fielding, modifications, installation and maintenance.
- Acceptance inspections on application Test Programs Sets.
- Evaluations of contractor prepared technical data.

We verified the accuracy of the data.

Document Separator

DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 8 August 1994

MEMORANDUM FOR Commander, U.S. Army Communications-Electronics Command, ATTN: AMSEL-IR, Fort Monmouth, New Jersey 07703-5029

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups; U.S. Army Communications-Electronics Command Research, Development and Engineering Center; Fort Monmouth, New Jersey--INFORMATION MEMORANDUM NR 94-715

1. **Introduction.** This is the report on our review of the data your command provided for the laboratory data call for the DOD Cross-Service Work Group. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-Service work groups. Our specific objective was to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-Service work group, DA and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review. To evaluate the accuracy of data furnished the laboratory cross-Service group, we:

- Reviewed cross-Service work group, DA and major command guidance and compared it with procedures center personnel followed to respond to the cross-Service group data call.
- Interviewed personnel from the U.S. Army Communications-Electronics Command Research, Development and Engineering Center; Resource Management Office; Safety Office; and Program Analysis and Evaluation Directorate; and from Fort Monmouth's Directorate of Public Works. The personnel we contacted helped prepare, review and validate command's response to the data call.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. On 7 January 1994, the Deputy Secretary of Defense established six DOD-led work groups to evaluate opportunities for cross-Service base closure and realignment actions. The work groups focused on:

- Military Treatment Facilities and Graduate Medical Education Centers.

- Test and Evaluation Facilities.

- Laboratories.

- Undergraduate Pilot Training.

- Depot Maintenance.

- Economic Impact.

Each of the work groups prepared a data call requiring activities to provide information needed to assess and identify cross-Service opportunities.

b. **Army Process.** Army guidance required responses from each activity identified in the cross-Service data calls. Activities were to furnish the responses to their major commands. The major commands provided certified data to the Army Basing Study Office. The office will then provide the data to the cross-Service work groups. This memorandum addresses your command's response to the laboratory data call.

c. **Laboratory Data Call.** The laboratory data call consisted of 25 data elements. The elements included a mix of objective and subjective questions about a laboratory's mission, workload and facilities. These questions were developed by the DOD work group to identify cross-Service opportunities. The Research, Development and Engineering Center is a laboratory of the Communications-Electronics Command, which is a subordinate activity of the U.S. Army Materiel Command. We evaluated the accuracy and support for 21 of the 25 data elements the

Engineering Center reported on for its Fort Monmouth facility. The center also reported on its laboratory facility at Fort Belvoir, Virginia. We didn't review the information submitted for Fort Belvoir.

4. **Results of Review.** The center reported accurate, verifiable data for 9 of the 21 elements we reviewed. The data for six elements was inaccurate, and we couldn't tell if the data reported for the remaining six elements was accurate because of inadequate documentation. Four of the six inaccuracies may be significant; the other two were minor errors. Details on the data elements reviewed and differences noted are in the annex. Our conclusions on specific objectives follow.

a. **Accuracy of Reported Data.** The center reported accurate data for nine elements. It reported inaccurate data for six elements.

(1) **Accurate Data.** The center reported accurate data for these nine elements:

Title	Data Elements
Mission	3.0
Geographical/Climate Features	3.1.1
Environmental Constraints	3.1.3
Special Support Infrastructure	3.1.4
Total Personnel	3.2.1
Projected Direct Funding	3.3.2.1
Projected Other Obligations	3.3.2.2
Planned Construction	3.5.1.3
Buildable Acres	3.5.2

(2) **Inaccurate Data.** The center reported inaccurate data for six elements.

(a) **Workload (Element 2.1).** The center reported funding and workyears between FYs 89 and 97. The funding information was accurate, but the numbers reported as workyears didn't represent workyears as defined in the DOD reporting guidance:

- The "programmed" workyears reported were actually the center's authorized strength at the *beginning* of each fiscal year.

- The "actual" workyears reported were the center's actual strength at the *end* of each fiscal year.

Responsible personnel told us the center's corporate information systems didn't provide the workyear data DOD requested, so they reported the authorized and actual staffing information. The center's submission didn't indicate that the information reported wasn't workyears.

(b) **Excess Laboratory Capacity (Element 2.2).** This element is based on the data reported in element 2.1. It shows excess laboratory capacity by subtracting the workyears programmed for FY 97 from the peak workyears between FYs 89 and 93. The center reported 363 workyears. But its calculation was based on staffing levels, not workyear data.

(c) **Licenses and Permits (Element 3.1.2).** The center reported four licenses from the U.S. Nuclear Regulatory Commission and one permit from DA. Generally, the documents authorize the handling of radioactive materiel. We identified one additional Nuclear Regulatory Commission license and three additional DA permits the center should have reported. We consider this a minor error.

(d) **FY 93 Workyear and Life Cycle (Element 3.3.1.1).** The center reported its actual staffing level at the end of FY 93, not the number of workyears for FY 93. Also, the center reported 151 military personnel on board at that time. The correct strength was 141.

(e) **Laboratory Facility Expansion Potential (Element 3.5.1).** The center reported that it had about 115,000 square feet of laboratory facility space and that all of it would be excess when all BRAC 91 relocations are completed. The center actually has much more space than that--one major laboratory facility alone has about 400,000 square feet of space. Center personnel believed they had to report only excess space. The DOD reporting guidance asked for total space, used space and excess space--not just excess space.

(f) **Utilities (Element 3.5.3).** The center reported a current electrical capacity of 65,000 kilovolt-amperes. The correct number is 78,000 kilovolt-amperes. We consider this a minor error. Also, the center reported the current capacity of its utility systems (electricity, water and sewage). The DOD reporting guidance asked for the center's capability to expand or procure "additional" utility services.

b. **Supporting Documentation.** The center didn't have adequate supporting documentation for six data elements.

(1) **Proximity to Mission-Related Organizations (Element 3.1.5).** The center couldn't fully document its estimate of workyears performed for or by mission-related organizations. (The reported proximity to the organizations was reasonable.) It used various noncorporate databases (for example, records of support provided to program executive officers and records of cooperative research and development agreements with academic institutions and corporations). We verified that the center used these records to estimate the workyears, but we couldn't verify that the records used gave an accurate counting of workyears.

(2) **FY 93 Workyear and Life Cycle (Element 3.3.1.1).** In addition to reporting its staffing level at the end of FY 93 rather than workyears incurred during the year (an inaccuracy discussed earlier), the center couldn't support its breakdown of the data into science and technology, engineering development and in-service engineering categories. We reviewed the support for the breakdown at five of the center's directorates (the activities that developed the information). Only one directorate could reconstruct the numbers it reported to the center level.

(3) **Engineering Development and In-Service Engineering (Elements 3.3.1.2 and 3.3.1.3).** The center couldn't fully document the funding and workyears reported for engineering development and in-service engineering. We verified the accuracy of the funding reported for some of the systems we reviewed, but weren't able to do so for most. The center also couldn't reconstruct the "average cost a workyear" factor it used to convert funding to workyears.

(4) **Major Equipment and Facilities (Element 3.4.1).** The center couldn't document the $844 million estimated replacement cost reported for 23 major facilities. Generally, directorate personnel making the estimates told us they lacked the facility records needed to estimate the costs using the procedure called for in the DOD reporting guidance (inflating original cost). Instead, they roughly estimated what they believed it would cost to build such a facility today.

(5) **Workyear Expansion Potential (Element 3.5.1.2).** The center couldn't fully document that it could support 350 to 400 additional workyears without major modification to its laboratory facilities. The lower number is supported: as part of BRAC 91, the Army Research Laboratory will move from Fort Monmouth and about 350 people work for the laboratory. But the

center had no documentation for the estimate that another 50 people beyond that could work in its laboratory facilities. Currently, about 2,000 personnel work in the facilities.

c. **Compliance with Cross-Service, DA and Major Command Guidance.** The center didn't comply with the DOD data call guidance for six elements. For Workload (Element 2.1), Excess Laboratory Capacity (Element 2.2) and FY 93 Workyears (Element 3.3.1.1), the center should have reported workyears rather than staffing levels. For Major Equipment and Facilities (Element 3.4.1), it should have estimated replacement cost by inflating original cost. For Laboratory Facility Expansion Potential (Element 3.5.1), it should have reported total space, used space and excess space instead of just excess space. For Utilities (Element 3.5.3), it should have reported the capability to expand or procure additional utility service instead of its current capacity.

5. **Discussion of Results.** We discussed the results of our review with Mr. Roger Weist and Ms. Connie Carnevale of the center and Ms. Patricia Devine of the Program Analysis and Evaluation Directorate on 1 August 1994. They agreed with our conclusions and said that the center would:

- Notify the Materiel Command that the data reported as workyears was actually staffing levels at various times.
- Better document and explain the workyear estimates it did report.
- Better document its facility replacement cost estimates.
- Correct the minor errors in the data reported for the licenses/permits and utilities elements.

This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

Henry P. Cullerton

Encl

HENRY P. CULLERTON
Regional Auditor General

CF: w encl
DOD Inspector General

SAAG-NER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups; U.S. Army Communications-Electronics Command Research, Development and Engineering Center; Fort Monmouth, New Jersey--INFORMATION MEMORANDUM NR 94-715

CF: (CONT)

Army Basing Study Office
Commander, Army Materiel Command

DATA ELEMENTS REVIEWED

Workload (Element 2.1)

The U.S. Army Communications-Electronics Command Research, Development and Engineering Center reported the following funding and workyear data:

Information Required	Fiscal Year 89	90	91	92	93	94	95	96	97
Total Funds Programmed ($M)	853	806	849	938	980	838	799	766	749
Total Actual Funds ($M)	856	791	859	908	967				
Programmed Workyears	1,918	1,946	2,309	2,539	2,256	2,418	2,311	2,239	2,176
Actual Workyears	1,933	2,011	2,158	2,230	2,181				

The programmed and actual funding data for FYs 89-94 came from the historical records of the Finance and Accounting Office. The programmed funding for FYs 95-97 came from the Program Objective Memorandum as of 1 April 1994. The programmed workyear data through FY 94 represents the center's authorized strength at the beginning of each fiscal year. The programmed workyears for the outyears were estimated based on the continuation of the current hiring freeze imposed to meet expected lower funding levels. The actual workyears are the center's actual strength at the end of each fiscal year.

We verified the accuracy of the funding and strength numbers the center used. Its estimate of outyear staffing was reasonable. But the DOD reporting guidance asked for programmed and actual "workyears" by fiscal year, not authorized or actual staffing levels.

The center agreed to inform the U.S. Army Materiel Command that it reported authorized and actual staffing levels rather than the workyears requested in the DOD reporting guidance.

DATA ELEMENTS REVIEWED

Excess Laboratory Capacity (Element 2.2)

The center reported that it had 363 workyears of excess capacity. It calculated this number using the formula specified by the DOD guidance--the largest number of programmed or actual workyears between FYs 89 and 93 (2,539 programmed in FY 92) less the number of workyears programmed for FY 97 (2,176).

As with data element 2.1, the number the center reported represents the difference in staffing levels, not workyears.

The center agreed to inform the Materiel Command that the number reported is based on staffing levels instead of workyears, as requested in the DOD reporting guidance.

Mission (Element 3.0)

Here's the mission the center reported:

> Provide the highest quality support to the American Armed Forces by delivering superior technologies, products and service for:
>
> - Digitizing the battlefield.
> - Owning the night.
> - Owning the spectrum.
> - Knowing the enemy.
> - Software development and sustainment.
> - System of systems architecture.
> - Global seamless communications.

The mission statement was written by the director of the center.

The statement is a reasonable synopsis of the center's mission.

Geographical/Climatological Features (Element 3.1.1)

The center provided a narrative description of the advantages of its location at Fort Monmouth. The description noted the proximity to major metropolitan areas, academic institutions and commercial electronic activities.

The description was reasonable.

DATA ELEMENTS REVIEWED

Licenses and Permits (Element 3.1.2)

The center reported four licenses from the Nuclear Regulatory Commission and one permit from DA. Generally, the licenses and permits authorize the handling of radioactive material.

We identified one additional Nuclear Regulatory Commission license and three additional DA permits that the center should have reported.

The center agreed to report the additional authorizations.

Environmental Constraints (Element 3.1.3)

The center reported that there were no environmental constraints on its operations.

We identified no environmental constraints.

Special Support Infrastructure (Element 3.1.4)

The center reported that a pulse power facility currently belonging to the Army Research Laboratory, but transferring to the center during FY 95, had special capabilities. It described the facility's high-power generation and cooling capabilities and its Tempest protection.

We verified the capabilities described.

DATA ELEMENTS REVIEWED

Proximity to Mission-Related Organizations (Element 3.1.5)

Here's the information the center provided on the proximity of the five types of organizations considered most important to its mission:

Name	Type of Organization	Distance	WORKYEARS Performed	WORKYEARS Funded
PEO, COMM/ CCS/IEW	Government	Colocated	815	0
CRDA Contractors	Commercial	10-100 mi	0	14
Universities	Universities	5- 50 mi	0	30
C3I Acq Ctr	Government	Colocated	149	0
Hi Tech Cont	Commercial	1- 20 mi	0	200

The center developed the workyear information using various non-corporate databases (for example, records of personnel providing support to program executive officers and records of cooperative research and development agreements made with academic institutions and corporations).

We verified that the center used these records to develop the numbers. We didn't verify that the records gave an accurate total of workyears used.

The center agreed to prepare documentation better explaining how the workyear estimates were developed.

DATA ELEMENTS REVIEWED

Total Personnel (Element 3.2.1)

Here's the information the center provided on the personnel engaged in supporting the C4I Common Support Function (the level of detail required by the DOD reporting guidance). C4I stands for Command, Control, Communications, Computers and Intelligence.

Types of Personnel	Number of Personnel*			
	Civilian	Military	Onsite FFRDC	Onsite SETA
Technical	1,103	59	0	125
Management (Supv)	176	29	0	1
Other	395	53	0	18

* FFRDC's and SETA's are non-government employees working at Federally funded laboratories.

The total number of personnel reported represents actual strength at the end of FY 93. The breakdown by technical, management and other was based on the center's analysis of its organizational structure.

We verified the accuracy of the total number reported. The technique used to distinguish between technical, management and other was reasonable.

Note: *The Materiel Command directed the center to report on this data element by the C4I subcategories of airborne, ground fixed and ground mobile. Our review was limited to verifying the accuracy of the data at the DOD-stipulated C4I level only.*

DATA ELEMENTS REVIEWED

FY 93 Workyear and Life Cycle (Element 3.3.1.1)

Here's the information the center provided on FY 93 workyears by the categories of science/technology, engineering development and in-service engineering:

	FY 93 Actual			
Lab	Civilian	Military	FFRDC	SETA
Science and Technology	556	63	0	73
Engineering Development	652	55	0	48
In-Service Engineering	466	33	0	23

The numbers reported represent the center's onboard strength at the end of FY 93. The breakdown into the categories of science and technology, engineering development and in-service engineering was made by individual directorates using noncorporate databases. Examples of the data sources used were organization charts, roster reports, reimbursable logs and workyear performed information.

We verified that, with one exception, the numbers reported represented onboard strength at the end of FY 93. The exception is that at the end of FY 93, the center had 141--not 151--military personnel on board. The error was arithmetic.

But the DOD reporting guidance asked for "workyears" in FY 93, not the staffing level at the end of the year. We also couldn't verify the accuracy of the center's breakdown of the data into science and technology, engineering development and in-service engineering categories. We attempted to do so at five of the center's directorates (the activities that developed the information). Only one directorate could reconstruct the numbers reported.

The center agreed to tell the Materiel Command that it reported staffing level rather than workyears as requested in the DOD reporting guidance. It also agreed to correct the error in military personnel and better document and explain how data was broken into the various categories.

As with the previous data element, the center broke down workyear and life-cycle information by the C4I subcategories of airborne, ground fixed and ground mobile. Our review was limited to the data reported for the DOD-stipulated C4I level only.

DATA ELEMENTS REVIEWED

Engineering Development (Element 3.3.1.2)

The center listed and described the 50 programs that were in engineering development. It also reported that about $200 million and about 1,000 workyears were spent on these programs during FY 93. The funding for each program was provided by individual directorates. The center then used an average cost a workyear to calculate workyears.

We reviewed the information provided for five major programs (accounting for about 16 percent of the funding).

- The funding data the directorates provided was accurate for four of the five programs. For one program, the directorate had no documentation supporting the funding it reported.

- The average cost a workyear developed at the center level was unsupported and we couldn't reconstruct it.

The center agreed to better document and explain how the funding and workyear estimates were developed.

In-Service Engineering (Element 3.3.1.3)

The center reported that all operational C4I systems receive some level of in-service engineering support from the center and identified 45 major systems that do so. It reported that it spent about $123 million and about 1,600 workyears providing this support during FY 93. Individual directorates provided the funding and workyear data for each program.

We reviewed the information provided for three major systems (about $20 million) and all post-deployment software support (about $87 million). For two of the three systems, the funding and workyear data reported was accurate. For the other system, the directorate couldn't support either number. The directorate providing post-deployment software support also couldn't document or reconstruct the numbers it reported.

The center agreed to prepare documentation better explaining how the funding and workyear estimates were developed.

DATA ELEMENTS REVIEWED

Projected Direct Funding (Element 3.3.2.1)

Here's the projected direct funding the center reported (the numbers reflect funding for both the Fort Monmouth and Fort Belvoir activities):

Direct Funding ($M)	FY 94	FY 95	FY 96	FY 97
RDTE	208.6	221.6	215.7	210.4
PA	58.5	56.0	48.4	27.9
OMA	102.1	88.6	86.3	89.5

The FY 94 numbers came from finance and accounting records. The numbers for FYs 95-97 came from the Program Objective Memorandum as of 1 April 1994.

We verified the accuracy of the reported numbers.

The center also broke this data element down by the C4I subcategories of airborne, ground fixed and ground mobile. Our review was limited to the data reported for the DOD-stipulated C4I level only.

Projected Other Obligations (Element 3.3.2.2)

Here's the projected other obligations the center reported (the numbers reflect funding for both the Fort Monmouth and Fort Belvoir activities):

Other Obligations ($M)	FY 94	FY 95	FY 96	FY 97
RDTE Reimb	112.6	107.6	100.1	100.1
OMA Reimb	35.5	30.9	28.0	28.0
Dir Cite	276.2	274.5	270.0	270.0

The numbers are estimates based on FY 93 actual obligations recorded in finance and accounting records.

The estimates correlated with actual obligations in FY 93 and were reasonable.

The center also broke this data element down by the C4I subcategories of airborne, ground fixed and ground mobile. Our review was limited to the data reported for the DOD-stipulated C4I level only.

DATA ELEMENTS REVIEWED

Major Equipment and Facilities (Element 3.4.1)

The center listed and described 23 major facilities at Fort Monmouth that had a replacement cost of about $844 million. DOD reporting guidance was to calculate replacement cost by inflating the facility's original construction cost.

We selected five of the listed facilities, valued at $761 million, and verified their existence. However, the directorates providing the information weren't able to document their estimates of replacement cost, primarily because they lacked records on the facilities' original cost.

The center agreed to prepare documentation better explaining how the facility replacement cost estimates were developed.

Laboratory Facility Expansion Potential (Element 3.5.1)

Here's what the center reported:

Facility Description	Type of Space	Space Capacity (KSF) Current	Used	Excess
Myer Center (ARL-Occupied)	Technical	57.5		57.5
	Admin	45.3		45.3
	Misc	7.1		7.1
Battery Test Facility	Technical	5.4		5.4

The center didn't comply with the DOD reporting guidance. It only reported excess space (mostly resulting from the planned move of the Army Research Laboratory from Fort Monmouth as part of BRAC 91. It should have reported the total laboratory space (administrative, technical, storage and utility) available, what was used and what was excess. For example, the Myer Center alone has about 400,000 square feet of space.

We verified that the Army Research Laboratory is scheduled to vacate about 110,000 square feet of space in the Myer Center in compliance with BRAC 91.

The center agreed to report laboratory space in accordance with DOD guidance.

DATA ELEMENTS REVIEWED

Workyear Expansion Potential (Elements 3.5.1.1 and 3.5.1.2)

The center reported that it could support 350 to 400 additional workyears without major modifications to its laboratory facilities. The low side of the estimate is about the number of people currently working for the Army Research Laboratory (the activity moving as part of BRAC 91). The high side represents an estimate that 50 additional personnel could work in the entire center facility without major modification to the space. The center couldn't fully document its estimate. We verified that about 350 personnel work for the Army Research Laboratory. But the center had no documentation showing how it arrived at the estimate that 50 more personnel could work in its facilities.

The center agreed to prepare documentation better explaining how it determined that the 50 additional personnel could work in its laboratory facilities.

Planned Construction (Element 3.5.1.3)

The center reported the plans to construct a new laboratory facility for its Intelligence and Electronic Warfare Directorate (relocating from Vint Hill Farms Station as part of BRAC 93). It also reported on the planned construction of additional laboratory space for satellite communications.

We verified that the two new construction projects were still planned.

Buildable Acres (Element 3.5.2)

The center reported about 281 buildable acres. This is the same number reported in Fort Monmouth's submission in response to the Army's installation assessment for BRAC 95.

We verified the accuracy of the reported number of buildable acres during our review of the earlier submission.

DATA ELEMENTS REVIEWED

Utilities (Element 3.5.3)

The center reported that Fort Monmouth had a total electrical capacity of 65,000 kilovolt-amperes, a water system capacity of 4.17 million gallons a day and a sewer capacity of 5.4 million gallons a day. These are the same numbers reported in the fort's submission in response to the Army's installation assessment for BRAC 95.

The center didn't comply with the DOD reporting guidance. The guidance asked for an estimate of the installation's capability to expand or procure "additional" utility services (electric, gas, water).

We verified the reported numbers during our review of Fort Monmouth's earlier submission. As reported then, electrical capacity should have been 78,000 kilovolt-amperes. The other reported capacities were correct.

The center agreed to report on utility capability in accordance with DOD guidance.

Document Separator

DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

SAAG-NER (36-5e) 18 November 1994

MEMORANDUM FOR Commander, U.S. Army Communications-Electronics Command, ATTN: AMSEL-IR, Fort Monmouth, New Jersey 07703-5029

SUBJECT: Review of Data Furnished Cross-Service Laboratories Work Group Supplement Data Call, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey--INFORMATION MEMORANDUM NR 95-705

1. **Introduction.** This is the report on our review of the supplemental data your command provided to the DOD Cross-Service Laboratories Work Group. The Director, Army Basing Study Office requested the review. We will include the results of our review in a summary report to higher levels of management.

2. **Objective and Scope.** The objective of our review was to determine whether the data U.S. Army Communications-Electronics Command furnished the DOD Laboratories Joint Cross-Service Work Group was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with Cross-Service Laboratories Work Group, DA and major command guidance.

We made the review from 2 to 10 November 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested management controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished the Cross-Service Laboratory Work Group, we:

- Reviewed guidance provided by the work group, DA and U.S. Army Materiel Command and compared it with procedures U.S. Army Communications-Electronics Command personnel followed to respond to the data call.

- Interviewed personnel from the Communications-Electronics Command Research, Development and Engineering Center; Resource Management Office; Program Analysis and Evaluation Directorate; Security Assistance Management Directorate; Fort Monmouth's Directorate of Public Works; and the Command Office Building Manager's Office. These personnel helped prepare, review and validate command's response to the data call.

- Tested the accuracy of selected source documentation.

- Verified calculations of selected data values.

3. **Background**

a. The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. On 7 January 1994, the Deputy Secretary of Defense established six DOD-led work groups to evaluate opportunities for cross-Service base closure and realignment actions. One work group focused on laboratories. Each work group prepared a data call requiring activities to provide information needed to assess and identify Cross-Service opportunities. We previously evaluated and reported on the accuracy of the Communications-Electronics Command's submission to the initial data call (INFORMATION MEMORANDUM NR 94-715, 8 August 1994).

b. The DOD Laboratories Joint Cross-Service Work Group issued a Command, Control, Communications, Computer and Intelligence supplemental data call on 6 October 1994 with responses due by 20 October 1994. The Director, Army Basing Study Office asked us to review the Army's response and supporting documentation for the supplemental data call. This memorandum addresses your command's response to the supplemental data call, which consisted of 8 data requirements with a total of 18 elements. The elements included a mix of objective and subjective requirements. We evaluated the accuracy and support for each of these elements.

4. **Results of Review.** Command reported accurate data for 14 of the 18 elements. The data for four elements was inaccurate, unsupported or wasn't reported in accordance with appropriate guidance. Our conclusions on specific objectives follow.

a. **Accurate Data Elements.** Command reported accurate data for these 14 elements:

Title	Data Element
Organization: - Organizational Elements - Organizational Relationships Between Support Organizations and Program Executive Offices	1a 1b
Occupied Space	2b
Location of Organizational Elements	3a
Location of Space Available in FY 97	3b
Potential Space for Consolidation in FY 97	3d
Capacity to Absorb Additional Workyears	4a, 4b
Impact of BRACs 91 and 93	5
Approved Plans That Impact the Activity and Installation	6
Collocated C4I Organization: - List Organization - Summarize Overall Mission - Relationship to Activity	7a 7b 7c
Tenants and Other Organizations	8

b. **Inaccurate Data Elements.** Command reported inaccurate data for two elements.

(1) **FY 93 Program Funds and Programs (Element 2c).** Command overstated reported FY 93 program funds by about $1.6 billion. Command reported a total of about $4.8 billion for FY 93 programs including foreign military sales totaling about $1.7 billion. Command's reported foreign military sales included all open and pending cases regardless of year awarded or status. Our review showed that command awarded only about $94.4 million in foreign military sales during FY 93.

(2) **Initial Cost of Equipment Difficult to Move or Replicate (Element 3c).** Command significantly overstated its reported cost of about $864.1 million for this element. The error occurred because command essentially reported the same costs that it reported for element 3.4.1 (Major Equipment and Facilities) in the original data call--even though the supplemental data call asked for different information. Of the $864.1 million, we reviewed the $500 million that Command reported for the Software Engineering Directorate. In validating that amount, we found the directorate had decreased the estimate to about $44.1 million. However, command still reported $500 million for the supplemental data call. Also, only about $1.5 million of the $44.1 million was for equipment that was difficult to move or replicate. The remaining $42.6 million covered costs to construct a new facility and to move personnel and equipment.

Description	Amount (Millions)
Building Construction	$21.7
Permanent Change of Station: - Government Employees - Contractor Personnel	 10.0 10.0
Communication Cables	.4
Shipping Costs	.2
Startup/Shutdown	.3
	$42.6

c. **Supporting Documentation.** The center didn't have adequate supporting documentation for two data elements.

(1) **Workyear Requirement for Contractual Support (Element 2a).** Command couldn't provide supporting documentation for workyear requirements for onsite and offsite contractor support. Two directorates in the research center reported:

Directorate	Reported Contract Personnel Workyears for Onsite	Offsite
Software Engineering	366	866
Command, Control and Systems Integration	188	158
Total	554	1,024

The directorates reported 80 percent of the onsite and 98 percent of the offsite totals for the research center. However, neither directorate had any documentation to support the reported workyears. The directorates cited personal knowledge as the source of its information.

(2) **Main Customers (Element 2d).** Command couldn't document the main customers of the support office. Command reported 148 main customers by name and told us the list was generated from the Business Plan database. However, only 66 of the reported customers were in the database. Command couldn't support the remaining 82 customers, including at least 8 contractors and universities.

d. **Compliance With Cross-Service, DA and Major Command Guidance.** Command generally complied with guidance. However, for data element 3c, command didn't identify and estimate the cost of equipment or facilities that couldn't be moved or replicated. Instead, command reported the replacement cost of facilities and equipment identified and reported in the original data call.

5. **Discussion of Results.** We discussed the results of our review with Mr. Larry Smith, Acting Director, Program Analysis and Evaluation Directorate, and Ms. Patricia Devine, Acting Director, BRAC Office, on 10 November 1994. They agreed with our conclusions and said they would:

- Correct the amount of program funds reported for the Logistics and Readiness Center.

- Review and identify facilities and equipment that can't be moved or replicated and report revised estimates to DA.

- Improve how reported workyear estimates for contractor support personnel are documented.

SAAG-NER
SUBJECT: Review of Data Furnished Cross-Service Laboratories Work Group Supplement Data Call, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey--INFORMATION MEMORANDUM NR 95-705

- Review and update the list of the support office's main customers.

This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

HENRY P. CULLERTON
Regional Auditor General

CF:
Inspector General, DOD
Army Basing Study Office
Commander, Materiel Command

Document Separator

DEPARTMENT OF THE ARMY
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REPLY TO
ATTENTION OF:

SAAG-SER

7 JUL 1994

MEMORANDUM FOR Commander, U.S. Army Garrison, Fort George G. Meade

SUBJECT: Review of the 1995 Army Basing Study - Phase I - Installation Assessments--INFORMATION MEMORANDUM SR 94-709

1. **Introduction.** This is our report of the installation assessments that your command did for the 1995 Army Basing Study. The Director of Management requested that we make the review. We will include the results in this report in a summary report to higher management levels. This memorandum isn't subject to the official command-reply process that Army Regulation 36-2 prescribes.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Appropriateness of data sources and methodologies used to obtain data values.

- Accuracy of reported data.

- Adequacy of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. We reviewed management controls to the extent we deemed necessary under the circumstances. Our review consisted of:

- Identifying quantitative data you reported to the Commander, U.S. Army Military District of Washington on 12 May 1994 in response to the DA data call for installation assessments, dated 18 April 1994, and change 1, dated 5 May 1994.

- Comparing reported quantitative data with source data at the installation. Source data consisted of both automated and manual records and reports and physical exhibits such as land, buildings, and utility systems.

- Evaluating the adequacy, completeness, and appropriateness of supporting data and exhibits. We reviewed applicable criteria, verified computations, reviewed applicable reports and documents from government and

contractor sources, and performed onsite inspections of selected physical assets.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990, as amended, provides a timely, independent, and fair process for closing and realigning U.S. military installations. The Army established the Basing Study Office to manage the study process. It divided the study process into two phases. Under Phase I, the Army performs installation assessments to assess the relative military value of its installations. Under Phase II, the Army identifies and evaluates alternatives for realignment and closure. This memorandum addresses only our review of your command's installation assessment process.

b. **Data Elements.** Fort Meade is a subordinate activity of the Military District of Washington and is categorized by the Army as a command and control/ administrative support installation. The Military District of Washington tasked Fort Meade to report data for 15 of 20 data elements in this category.

4. **Review Results.** We concluded that the quantitative data that your command reported was generally accurate and reliable for the Army to use in realignment and closure analyses. We reviewed the accuracy of quantitative data for the 15 data elements and the adequacy of records maintained to support the data. Fort Meade generally used appropriate data sources and methodologies, reported accurate data, and had adequate documentation. We found some minor deficiencies in the sources used, accuracy of data, and supporting documentation. We reported these discrepancies to the personnel involved in the assessment process, and they immediately took corrective action. Fort Meade personnel revised the four data elements. On 21 June 1994, the base realignment officer sent the revisions to the Military District of Washington. The details of our review are in the following paragraphs, and the results of our verification are in the enclosure.

a. **Data Sources and Methodologies.** Fort Meade personnel used the standard data sources and methodologies that DA guidance required for 14 of the 15 data elements. For the 15th data element, accessibility, personnel in your Directorate of Resource Management used FY 94 data to report the value when DA guidance required FY 93 data.

- The analyst didn't use FY 93 data because Fort Meade transferred to the command and control of the Military District of Washington on 1 October 1993. The analyst concluded that the FY 93 data was no longer applicable. But the analyst didn't obtain a written waiver to use FY 94 data. DA Installation Assessment Program guidance requires a written waiver.

- We advised the analyst and Fort Meade's base realignment officer to ask for a written waiver to use FY 94 data to develop the assessibility data element. The base realignment officer took prompt action to get this done. He prepared a written request for the waiver and, on 10 June 1994, sent it to the Military District of Washington for forwarding to DA.

b. **Accuracy of Reported Data.** Your command accurately reported quantitative data for 10 of the 15 data elements that the Military District of Washington tasked you to develop. For the remaining five data elements:

- **Buildable Acres.** Personnel from the Master Planning Division made errors when copying numbers from their computer terminal onto a handwritten spreadsheet that they used to group and analyze the data for buildable acres. As a result, they understated the value of this data element by 186 acres. When we brought the errors to their attention, they promptly adjusted their computation.

- **Maintenance Facilities, and Operations/Administrative Facilities.** At the installation level, the automated Integrated Facility System was the primary source for this data element. The facility system feeds the real planning and analysis systems, which is the data source DA prescribed for these two data elements. Personnel at your Master Planning Division didn't use correct facility category groups to extract data from the automated system. Therefore, they understated the value for the maintenance facilities data element and overstated the value for operations/administrative facilities. When we brought these data errors to the attention of the points of contact for the data elements, Master Planning personnel explained that they weren't fully familiar with facility category groups in the automated system. They contacted a commercial

contractor to determine which codes would provide complete data for the data elements in question. They then recomputed the value of these data elements and pulled together the needed documentation to support the recomputed figures.

- **Environmental Carrying Capacity.** Personnel from your Environmental Management Office inadvertently included Tipton Army Air Field in the computation of the data element for environmental carrying capacity. However, a 1988 Base Realignment and Closure Action declared the air field excess to the installation and put it into the category of property for disposal. Thus, Environmental Management Office personnel shouldn't have included the air field as a factor in the current assessment. Based on our verification, Environmental Management Office personnel excluded the air field from their computation and recomputed the quantitative value of the data element. They gave the revised data to your base realignment office. On 21 June 1994, the realignment officer forwarded the revised computation to the Military District of Washington.

- **Reserve Training.** We couldn't verify the accuracy of this data element due to a lack sufficient supporting documentation.

c. **Adequacy of Records Maintained.** Responsible personnel gathered and maintained adequate supporting documentation to show how they developed quantitative data for 14 of the 15 data elements. But they didn't have complete records to support the data that your command reported for the data element on reserve training. They calculated the scoring for this data element from the number of people on annual training and the number of days of inactive duty training. Fort Meade computed the value for annual training from lists of the number of personnel by Reserve Component units for FY 91, FY 92, and FY 93. It used Fort Meade Form DRC 8 (Counterpart Training Worksheet) to compute the value for inactive duty training. These forms didn't identify the individual's unit or that the forms were for inactive duty training. While the reported values were the best information available, we couldn't verify them. There wasn't any original-source documentation available to support the computations made from these documents.

5. **Discussion of Results.** We discussed the results of our verification of the installation assessment with Fort

SAAG-SER
SUBJECT: Review of the 1995 Army Basing Study - Phase I - Installation Assessments--INFORMATION MEMORANDUM SR 94-709

Meade's point of contact for each specific data element. We discussed our overall results with your base realignment officer on 8 June 1994. He agreed with our conclusions.

6. I appreciate the courtesies and cooperation your people extended to us.

Encl

STEPHEN E. KEEFER
Regional Auditor General

CF:
Director of Management
Army Basing Study Office
Commander, U.S. Army Military
District of Washington

DATA ELEMENTS REVIEWED

Data Element	Unit of Measure	Reported by Fort Meade	Verified by Army Audit
Accessibility	Miles	57	57 (a)
Average Age of Facilities	Average Age (years)	39	39
Barracks and Family Housing	Sum of dwelling units and spaces	10,418	10,418
BASOPS/Mission Population *	Dollars (in millions)	$71.2	$71.2
Buildable Acres	Acres	3,635	3,821 (b)
Environmental Carrying Capacity **			
Historic bldgs	Sites per acre	.0025	.0025
Endangered species	Number of species	none	none
Wetlands	Acres	6.5%	5% (c)
Air quality	Attainment	10	10
Water quality	Times exceeded	0	0
Noise quality	Acres offpost	0	0
Contamination	Number of sites	6	6
Family Housing Cost	Dollars per dwelling	$4,301	$4,301
Information Mission Area	Numeric factor	1,360	1,360
Infrastructure			
Water	Million gal/day	8.2	8.2
Sewage	Million gal/day	4.5	4.5
Electrical	Kilovolt amps	40,000	40,000
Landfill	Dollars per ton	$58	$58
Maintenance Facilities	Square feet (in thousands)	108	113 (d)
Mobilization Capability	Billets	525	525

Enclosure

Data Element	Unit of Measure	Reported by Fort Meade	Verified by Army Audit
Operations/ Administrative Facilities	Square feet (in millions)	938	916 (d)
Percent Permanent Facilities	Percent	87%	87%
Reserve Training	Number of personnel	2,226	0 (e)
	Mandays	392	0 (e)
Supply and Storage	Square feet (in thousands)	213	213

Explanation of differences between the amounts that Fort Meade reported and the amounts that we verified:

(a) Accessibility: Initially used FY 94 data without getting a waiver to deviate from required source data. Fort Meade requested a waiver to use FY 94 data.

(b) Buildable Acres: Inaccurately copied data from a computer terminal, which understated the number of acres.

(c) Environmental Capacity: Included data that should have been excluded.

(d) Maintenance Facilities and Operations/Administrative Facilities: Incorrectly extracted data from the automated system, understanding maintenance facilities and overstating operations/administrative facilities.

(e) Reserve Training: Insufficient supporting documentation.

* This value is the total BASOPS mission cost for the installation. The Basing Study Office, DA will compute the value of the unit of measure--dollars per person per year--for this data element.

** Values aren't weighted.

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REPLY TO
ATTENTION OF:

SAAG-SER

11 JUL 1994

MEMORANDUM FOR Commander, U.S. Army Garrison, Fort Belvoir, Fort Belvoir, Virginia

SUBJECT: Review of the 1995 Army Basing Study - Phase I - Installation Assessments, Fort Belvoir--INFORMATION MEMORANDUM SR 94-710

1. **Introduction.** This is the report of the installation assessments that your command did for the 1995 Army Basing Study. The Director of Management requested that we make the review. We will include the results in this report in a summary report to higher management levels. This memorandum is for your information and isn't subject to the official command-reply process that Army Regulation 36-2 prescribes.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate:

- Appropriateness of data sources and methodologies used to obtain data values.

- Accuracy of reported data.

- Adequacy of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. We reviewed management controls to the extent we deemed necessary under the circumstances. Our review consisted of:

- Identifying data you reported to the Commander, U.S. Army Military District of Washington on 20 May 1994 in response to the DA data call for installation assessments, dated 18 April 1994, and change 1, dated 5 May 1994. The data call included 15 data elements.

- Comparing reported data with source data at the installation. Source data consisted of both automated and manual records, reports, and copies of maps showing land and buildings.

- Evaluating the adequacy, completeness, and appropriateness of supporting data. We reviewed applicable criteria, verified computations, reviewed reports and documents from government and contractor sources, and

performed onsite inspection of selected physical assets.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990, as amended, provides a timely, independent, and fair process for closing and realigning U.S. military installations. The Army established the Basing Study Office to manage the study process. It divided the study process into two phases. In Phase I, the Army performs installation assessments to assess the relative military value of its installations. In Phase II, the Army identifies and evaluates alternatives for realignment and closure. This memorandum addresses only our review of your command's installation assessment process.

b. **Data Elements.** Fort Belvoir is a subordinate activity of the Military District of Washington and is categorized by the Army as a command and control/ administrative support installation. The Military District of Washington tasked Fort Belvoir to report data for 15 of 20 data elements in this category.

4. **Review Results.** We concluded that your command needed to improve the accuracy and reliability of the quantitative data you reported for Army use in realignment and closure analyses. We found some minor deficiencies in the sources used, accuracy of data, and supporting documentation. The details of our review are in the following paragraphs and the results of our verification are in the enclosure.

a. **Data Sources and Methodologies.** Your command used appropriate data sources and methodologies to report data values for 7 of the 15 data elements. These data sources and methodologies were either consistent with the Army's installation assessment guidance or an acceptable alternative to the guidance. The Integrated Facility System was an acceptable data source substitution for the Headquarters Real Property Planning and Analysis System. For the remaining eight data elements, deviations in the data sources or methodologies weren't appropriate. These data elements were accessibility, average age of facilities, barracks and family housing, buildable acres, environmental carrying capacity, family housing cost per dwelling unit, infrastructure, and mobilization capability.

b. **Accuracy of Reported Data.** Your command accurately reported data for 4 of the 15 data elements that the

Military District of Washington tasked you to address. The remaining 11 contained some incorrect values.

(1) **Accurate Data.** Fort Belvoir reported accurate data for four data elements. Command accurately reported values for base operations/mission population, maintenance facilities, operations/administrative facilities, and percent permanent facilities.

(2) **Inaccurate Data.** Data reported for 11 data elements wasn't accurate. The enclosure shows the differences between the values that Fort Belvoir reported and the values we verified. Fort Belvoir agreed to correct these data values.

(a) **Environmental Carrying Capacity.** Fort Belvoir used the wrong weight for the air quality factor. It used a weight of 5 instead of 15. Also, Fort Belvoir reported values for three factors (archaeology/historical building, noise quality, and contaminated sites), but didn't have the supporting documentation for its computation. Without the original source documents, we couldn't verify the accuracy of these factors.

(b) **Information Mission Area.** Installation personnel incorrectly computed values for three of the seven categories for this data element. They used the wrong criteria within the category values for Outside Cable Plant, Defense Data Network Node, and the Post Wide Area Network/Local Area Network. Therefore, they incorrectly computed the scores for these three categories.

- **Outside Cable Plant.** Fort Belvoir reported 260 points. The category had 11 points and a weight of 20 points. Therefore, the score should have been 220 points (11 points times 20).

- **Defense Data Network Node.** Fort Belvoir reported 25 points. The category had 10 points and a weight of 5 points, equating to a score of 50 points.

- **Post Wide Area Network/Local Area Network.** Fort Belvoir reported 75 points instead of 45 points. The category had 3 points and a weight of 15 points (3 points times 15).

(c) **Reserve Training.** Personnel in the Reserve Training Division incorrectly used calendar year data

instead of fiscal year data to develop data for this data element. Based on our verification, they should have included 3 months of data--October, November, and December 1990--and excluded 3 months of data--October, November, and December 1993. Training Division personnel corrected the data element and said they would resubmit it to the Military District of Washington.

(d) **Supply and Storage Facilities.** Command didn't include square footage for facilities under construction in the value for this data element. Our review showed that command should have included an additional 208,000 square feet under construction in the computation for this data element.

(e) **Other Differences.** There were minor differences in the values that command reported for accessibility, average age of facilities, barracks and family housing, buildable acres, family housing cost per dwelling unit, infrastructure, and mobilization capability. Command personnel used improper sources or methodologies, as discussed previously, or made arithmetical errors when they computed the values for these data elements.

c. **Adequacy of Records.** Our review indicated that command didn't maintain an adequate audit trail to support the data values reported for three data elements:

- **Accessibility.** Actual travel data for FY 93 should have been used to support the data value reported. Command personnel didn't maintain such data. They used locations and distances based on personal travel experience to compute the average mileage to the four most traveled-to locations. We confirmed the distances to the four locations: Fort McNair; the Pentagon; Alexandria, Virginia; and Fairfax City, Virginia. We used the Official Travel Distance Manual and an American Automobile Association map to verify the data reported.

- **Environmental Carrying Capacity.** Responsible personnel couldn't locate the source documents used to support three of the seven factors in this data element. Fort Belvoir should have used the Installation Cultural Surveys to support the archaeology/historical building factor, the Installation Master Plan or equivalent document for noise quality factor, and the U.S. Army Toxic

SAAG-SER
SUBJECT: Review of the 1995 Army Basing Study - Phase I - Installation Assessments, Fort Belvoir--INFORMATION MEMORANDUM SR 94-710

Hazardous Material Agency Survey for contaminated sites data.

- **Information Mission Area.** Command personnel didn't have documentation to support some of the information mission area data values as discussed previously. We obtained the information from the Office of the Defense Telephone Service-Washington, which was located on post.

5. **Discussion of Results.** We discussed the results of our review with you and Mr. Maury Cralle, Base Realignment Officer, on 10 June 1994. You both agreed with the results of our review for each of the data elements and agreed to forward revisions to the Military District of Washington.

6. I appreciate the courtesies and cooperation your people extended to us.

for Robert L Emmons
STEPHEN E. KEEFER
Regional Auditor General

Encl

CF:
Director of Management
Army Basing Study Office
Commander, U.S. Army Military
District of Washington

DATA ELEMENTS REVIEWED

Data Element	Unit of Measure	Reported by Fort Belvoir	Verified by Army Audit
Accessibility	Miles	17 (a)	16
Average Age of Facilities	Years	1955 (b)	39
Barracks and Family Housing			
Family Housing:			
On post	Units	2,070 (c)	2,071
Off post	Units	1,420 (d)	1,279
Complex units	Units	35,086 (e)	35,169
Personnel Housing:			
Unaccompanied Officer	Spaces	11	11
Unaccompanied Enlisted	Spaces	994	994
BASOPS/Mission Population*	Dollars (in millions)	$83.4	$83.4
Buildable Acres	Acres	1,047 (f)	1,022
Environmental Carrying Capacity**			
Archaeology/historical building	Sites/building	0.175 (g)	-
Endangered species	Plants/animals	15	15
Wetlands	Acres	1.0465 (h)	.9782
Air quality	Attainment	50 (i)	150
Water quality	Times exceeded	30	30
Noise quality	Acres offpost	3,000 (j)	-
Contaminated sites	Number of sites	0 (k)	-
Family Housing Cost	Dollars per dwelling	$6,732 (l)	$6,729
Information Mission Area			
Telephone switching	Weight	500	500
Outside Cable Plant	Weight	260 (m)	220
Common user support	Weight	330	330
Defense Switched/ Data Network Node	Weight	25 (n)	50

Enclosure

Data Element	Unit of Measure	Reported by Fort Belvoir	Verified by Army Audit
Post Wide Area/Local Area Network	Weight	75 (o)	45
Center: Telecommunications	Weight	50	50
Video-Telecommunications	Weight	45	45
Infrastructure			
Water	Million gal/day	4.4	4.4
Sewage	Million gal/day	1.8	1.8
Electrical	Kilovolt amps	48 (megawatts/hour) (p)	40,150
Landfill	Dollars per short ton	127 (q)	130
Maintenance Facilities	Square feet (in thousands)	168	168
Mobilization Capability	Spaces	1,974 (r)	1,977
Operations/ Administrative Facilities	Square feet (in millions)	1,464	1,464
Percent Permanent Facilities	Percent	85%	85%
Reserve Training			
Annual training	Personnel	1,277 (s)	1,305
Inactive duty training	Mandays	239,469 (t)	231,163
Supply and Storage Facilities	Square feet (in thousands)	119 (u)	327

Explanation of differences between the amounts that Fort Belvoir reported and the amounts that we verified.

(a) Fort Belvoir didn't make the estimate based on FY 93 travel; we used Fort Belvoir's Official Travel Distance Manual to compute miles to the four most traveled-to locations. We don't consider the difference of 1 mile to be significant.

(b) Personnel reported a date instead of numbers of years.

(c) Reports indicated total units as 2,071. Command personnel are currently researching supporting data.

(d) Housing report showed actual number of units as 1,279.

(e) Command personnel are researching data on number of actual units.

(f) Personnel used wrong measurement for conversion factor to determine buildable acres in place of the Master Plan data.

(g) For archaeology/historical buildings, supporting data wasn't available.

(h) For wetlands, personnel used 8,600 acres in their formula; they should have used 9,200 acres. However, the difference in number of acres didn't significantly affect the weighted factor.

(i) Personnel used the wrong weight for this factor. Instead of a weight of 5, they should have used a weight of 15.

(j) For noise quality, supporting data wasn't available.

(k) For contaminated sites, supporting data wasn't available.

(l) Personnel used 2,070 units to compute cost; actual number of units on record was 2,071. We don't consider the difference to be significant.

(m, n,o) Information mission area personnel selected the wrong categories for cable type, service network node, and the post wide network; therefore, numbers used in the formula were incorrect.

(p) Personnel reported data value in megawatts per hour instead of kilovolt amps.

(q) Personnel used dollars per ton as measurement, instead of using dollars per short ton. A short ton is 10 percent more than a ton. We don't consider the difference to be significant.

(r) Personnel miscounted numbers of available billets. We don't consider the difference (three billet space) to be significant.

(s, t) Personnel used calendar years instead of fiscal years to compute average for the 3-year period.

(u) Personnel didn't include square footage for the facilities currently under construction.

* This value is the total BASOPS mission cost for the installation. The Basing Study Office, DA will compute the value of the unit of measure--dollars per person per year--for this data element.

** Values are based on weighted factors.

Document Separator

DEPARTMENT OF THE ARMY
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REPLY TO
ATTENTION OF

SAAG-CER (36)

24 JUN 1994

MEMORANDUM FOR Commander, U.S. Army Armor Center and
Fort Knox, Fort Knox, Kentucky

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment -- INFORMATION MEMORANDUM
CR 94-704

1. **Introduction.** This is our report on the audit of installation assessments that your command did for the 1995 Army Basing Study. The Director of Management requested we make the review. We will include data in this report in a summary report to higher management levels.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Appropriateness of data sources and methodologies used to obtain data values.

- Accuracy of reported data.

- Completeness of records maintained.

We made the review during May and June 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. Accordingly, we reviewed internal controls to the extent we deemed necessary under the circumstances. Our review consisted of reviewing appropriate reports, studies, maps, correspondence, and other supporting documentation maintained by installation personnel. We also conducted several interviews with installation personnel. In addition, we selectively verified the existence of ranges, buildings, and other facilities on the installation.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 furnishes a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. It divided the study process into two phases. Under Phase I, the Army

performs installation assessments to assess the relative military value of its installations. Under Phase II, the Army identifies and evaluates alternatives for realignment and closure. This memorandum only addresses our review of your command's installation assessment process.

b. **Attributes.** Fort Knox is a subordinate activity of U.S. Army Training and Doctrine Command and is categorized by the Army as a Training School Installation. Training and Doctrine Command tasked Fort Knox to report data for 12 of 19 attributes in this category. Although not required, Fort Knox reported data for some attributes where the data values were supposed to be extracted from the Headquarters Real Property Planning and Analysis System (HQRPLANS). To report data for the attributes, Fort Knox had to obtain information for 103 data elements.

4. **Review Results.** We concluded that the data the installation reported was generally accurate and reliable for the Army to use in realignment and closure analyses. We found differences in the values reported for 22 data elements and couldn't verify the values for 6 other elements. We don't believe the differences that we found distorted the reported values. We present detailed results of our review of the data the installation reported in Annex A.

a. **Data Sources and Methodologies.** Responsible personnel used appropriate data sources and methodologies to obtain values for the data elements.

- Personnel used the standard data sources identified in the installation assessment guidance from the Army Basing Study Group to gather information on the data elements.

- For data sources not specifically identified in the guidance, personnel used various installation databases, reports, studies, and contractor personnel to compute the values for the data elements.

- Personnel used a spreadsheet report format provided by U.S. Army Training and Doctrine Command. The format clearly showed the data

elements the U.S. Army Armor Center and Fort Knox was required to report.

b. **Accuracy of Reported Data.** Command generally reported accurate data values.

- We validated the information reported by command for about 100 data elements for the various attributes or categories, which included 10 data elements where the data value was extracted from the Headquarters Real Property Planning and Analysis System (HQRPLANS). We identified a difference on 22 of the data elements. In addition, we couldn't verify the value assigned to six data elements because command didn't have any documentation to support the number for five of the six. Also, one data element (Average Age of Facilities) required extensive calculation using weighted averages--we didn't have time to do this calculation. We attributed most of the differences to the use of different monthly reports and to changes by higher headquarters to the value assigned to a subdata element of an attribute. These changes also caused the overall total value assigned to the attribute to change.

- Personnel at Training and Doctrine Command worked with Fort Knox personnel to make sure the values Fort Knox reported were accurate.

- Training and Doctrine Command personnel also provided Fort Knox personnel a last review of the values assigned to each attribute before the data was submitted to Headquarters DA. Based on this review, Fort Knox requested that Training and Doctrine Command change some values before they forward the data.

c. **Completeness of Records.** Except for five data elements, installation personnel generally had adequace documentation to support the values they reported.

- We couldn't verify the number of acres that extended beyond the installation's boundary that were effected by noise levels. Installation

personnel provided us a copy of the noise level study report, but the report didn't reference the value reported for the data element.

- We couldn't verify the number of people or days for FYs 91 and 92 related to Army Reserve training--annual training and inactive duty training. The personnel who computed the values for FYs 91 and 92 Reserve training data element were no longer assigned to the installation, and no one else could explain how the figure was computed. We were told that personnel obtained the reported values from briefing charts. We tried to verify monthly Army Reserve training data figures for May 1991 and June 1992 from supporting documents provided by Army Reserve training personnel. Our calculations produced different monthly values. And since the installation personnel who produced the reports were unavailable, we concluded that we couldn't verify the values reported for FY 91 and FY 92. We believe that some of the supporting documents were missing. We did verify the value for the data element for FY 93 and found it to be in error. Although we couldn't verify the reported data for FYs 91 and 92, we did verify that the average computed for the 3-year period FYs 91 through 93, using the reported data, was correct. But the error that we found with the FY 93 data caused the 3-year averages to be incorrect.

For the remaining data elements, we found that there was a clear decision trail supporting the values reported.

SAAG-CER
SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment -- INFORMATION MEMORANDUM
CR 94-704

5. **Discussion of Results.** We discussed the results of our review with Ms. Joy King and Mr. Dan Jenkins, the installation's trusted agents as well as with other personnel responsible for reporting specific data elements. They all agreed with our conclusions and agreed to report the changes to Training and Doctrine Command. This report isn't subject to the official command-reply process.

David O. Suter /for
RAYMOND L. MCCAULLEY
Regional Auditor General

DATA ELEMENTS REVIEWED

Data Element	Unit of Measure	Values Reported By Fort Knox	Values Verified By Army Audit Agency	Notes
Buildable Acres	Acres	2,000	2,000	
Deployment Network	Miles			
Railhead Distance	Miles	0	0	
Airport Distance	Miles	35	35	
Seaport Access Distance	Miles	604	604	
Interstate Highway	Miles	14	14	
Environmental Carrying Capacity				
Archaeological Factor				
Archaeological Site Density	Sites	12	12	
Listed on National Register	Sites	0	0	
Eligible/Potential Sites	Sites	12	12	
Total Acres Surveyed	Acres	30,000	30,000	
Total Installation Acres	Acres	109,054	109,054	
Historical Building Factor				
Historical Building Density	Buildings	5	5	
Listed on National Register	Buildings	0	0	
Eligible/Potential Buildings	Buildings	5	5	
Total Buildings Surveyed	Buildings	1,300	1,165	a
Endangered Species Factor				
Total Endangered Species	Species	2	2	
Endangered Fauna	Fauna	2	2	
Endangered Flora	Flora	0	0	
Total Threatened Species	Species	0	0	
Threatened Fauna	Fauna	0	0	
Threatened Flora	Flora	0	0	
Wetland Factor				
Total Wetland Acreage	Acres	900	900	
Total Installation Acres	Acres	109,054	109,054	
Air Quality Factor:				
In Attainment (Y/N)		Y	Y	

Data Element	Unit of Measure	Values Reported By Fort Knox	Values Verified By Army Audit Agency	Notes
Water Quality Factor -				
# NPDES Exceeded		0	0	
Noise Quality Factor	Acres			
Total Acres AICUZ/ICUZ Zone II	Acres	1,900	0	b
Total Acres AICUZ/ICUZ Zone III	Acres	0	0	
Contaminated Sites Factor	Sites			
Total Number of IRP Sites	Sites	18	34	c
Total Number of NPL Sites	Sites	0	0	
Family Housing Cost Per Dwelling Unit				
Average AFHO Costs	$ per unit	4,610	4,612	d
FY 93 AFH Operations Cost	$ per unit	5,085	5,090	e
FY 92 AFH Operations Cost	$ per unit	4,397	4,397	
FY 91 AFH Operations Cost	$ per unit	4,348	4,348	
Impact Acres	Acres	53,112	53,112	
Air Force Bombing Capable	(Y/N)	5	5	
Attack Helicopter Capable	(Y/N)	5	5	
Tube Artillery Capable	(Y/N)	5	5	
Above Three All Yes	(Y/N)	15	15	
MLRS Capable	(Y/N)	10	10	
Information Mission Area	Points	1,075	1,195	f
Telephone Switching	Points	400	450	g
Main DCO Digital Switch (Y/N)	Points	5	5	
Percentage of Fill	Points	1	3	h
Lines (Equipped)	Points	5	5	
Lines (Expandable To)	Points	5	5	
Outside Cable Plant	Points	220	220	
OSCAR Implementation Phase Completed	Points	3	3	
Cable Type (Fiber Backbone, Mixed or Copper)	Points	3	3	
Percentage of Fill	Points	5	5	

Data Element	Unit of Measure	Values Reported By Fort Knox	Values Verified By Army Audit Agency	Notes
Common User Mainframe Architecture	Points	360	360	
Mainframe type	Points	4	4	
Total MIPS	Points	4	4	
ASIMS (RDC or DPC)	Points	3	3	
E-Mail(Sperry/MMDF, Other or None)	Points	3	3	
Front End Processor (FEP)	Points	5	5	
Super Computer	Points	0	0	
Common User DASD (GIGABYTES)	Points	5	5	
DSN/DDN Node	Points	0	25	i
DSN (Y/N)	Points	0	5	j
MILNET (Y/N)	Points	0	0	
DISNET (Y/N)	Points	0	0	
SCINET (Y/N)	Points	0	0	
Post Wide WAN/LAN	Points	0	45	k
Fiber Optic (Y/N)	Points	0	0	
Other (Y/N)	Points	0	3	k
TCC	Points	50	50	
GENSER Type	Points	5	5	
DSSCS Type	Points	5	5	
AMME or ASC (Y/N)	Points	0	0	
Comm Secure Processor (Y/N)	Points	0	0	
VTC Facility	Points	45	45	
VTC Facility (Y/N)	Points	3	3	
Infrastructure				
Water treatment capability	(MGD)	13.7	13.5	l
Sewage treatment capability	(MGD)	6	6	
Electrical distribution capability	(KVA)	120,000	132,000	m
Land Fill (Dollars per Short Ton)				
On Post (Const/Demolition landfill)	Dollars	9.82	9.82	
Off Post	Dollars		119.75	n
Maneuver Acres	Acres	47,994	47,994	
Mechanized Maneuver Acres	Acres	13,862	13,862	

Data Element	Unit of Measure	Values Reported By Fort Knox	Values Verified By Army Audit Agency	Notes
Mobilization Capability				
Permanent Officer Mob UOPH	Spaces	1,412	1,412	
Permanent Enlisted Mob UEPH	Spaces	16,352	16,393	o
Temporary Officer Mob UOPH	Spaces	0	0	
Temporary Enlisted Mob UEPH	Spaces	7,908	7,908	
Ranges				
Number of MPRC	Number	1	1	
Number of RETS Equipped Firing Points	Number	64	64	
Standard MOUT Range Available (Y/N)	Points	0	0	
Total Number of Ranges	Number	72	72	
Reserve Training				
Annual Training (Average)	People	6,294	6,059	p
FY 93	People	7,404	6,698	q
FY 92	People	6,655		r
FY 91	People	4,824		r
Inactive Duty Training (Average)	Mandays	84,675.67	84,674	s
FY 93	Mandays	92,995	92,990	t
FY 92	Mandays	90,536		r
FY 91	Mandays	70,496		r
Applied Instructional Facilities	Square Feet	778,000	800,000	u
Average Age of Facilities	Years	41.1		v
Barracks (UPH)				
Permanent UOPH Spaces (FCG 72400)	Spaces	668	668	
Permanent UEPH Spaces (FCG 72105)	Spaces	3,979	3,979	
Trainee Assets (FCG 7216P)	Spaces	6,432	6,432	
Family Housing				
On-post Family Dwelling Units	Units	4,363	4,363	
Off-post Family Dwelling Units	Units	3,976	3,976	

Data Element	Unit of Measure	Values Reported By Fort Knox	Values Verified By Army Audit Agency	Notes
General Instructional Facilities	Square Feet	160,000	168,000	u
Percent Permanent Facilities	Percent	61.84	78.6	u
Workspace	Square Feet	2,353,000	2,572,540	u

NOTES

a - Reporting error--no one verified the number to the source documents.
b - We could not verify the figure because it was based on a noise study completed in June 1992 by a contractor; the contractor's report doesn't identify a specific figure.
c - Fort Knox originally reported 34 sites to TRADOC, and TRADOC changed this number to 18. The correct number is 34.
d - A decrease of four units in FY 93 changed the 3-year average cost per unit.
e - A decrease of four units in FY 93 changed the FY 93 average cost per unit.
f - Changes in the values assigned to several subdata elements in the Information Mission Area caused the overall total to change.
g - Change in Percentage of Fill subelement caused the overall total for the category to change.
h - Percentage of Fill was overstated resulting in assigning a lower value to the subelement.
i - Sub-data-element change resulted in new total.
j - Fort Knox has upgraded DSN equipment.
k - Sub-data-element changed, which also changed the overall total.
l - Mathematical error.
m - Typographical error.
n - On-post landfill is for construction and demolition debris; all other trash is disposed of off post. Off-post landfill cost wasn't previously reported.
o - Calculation error.
p - Addition error in FY 93 data changed the average.
q - Addition error in FY 93 data.
r - We could not verify the figure because the personnel who computed the data are no longer at Fort Knox and no one else could explain how the figure was computed.
s - Addition error in FY 93 data changed the average.
t - Addition error in FY 93 data.
u - We based our figures on May 1994 data; HQRPLANS figures based on earlier data.
v - We didn't have sufficient time to verify several weighted average calculations to compute a value for this data element.

Legend

AFH	Army Family Housing
AFHO	Army Family Housing Operations
AICUZ	Air Force Installation Compatibility Use Zone
AMME	Automated Multi-Media Exchange
ASC	Automated Switching Center
ASIMS	Army Standard Information Management System
DASD	Direct Access Storage Device
DCO	Dial Central Office
DISNET	Defense Information Systems Network
DPC	Data Processing Center
DSN	Defense Switched Network
DSSCS	Defense Special Security Communications System
FCG	Facility Category Group
FEP	Front End Processor
GENSER	General Service
ICUZ	Installation Compatibility Use Zone
IRP	Installation Restoration Plan
LAN	Local Area Network
MILNET	Military Network
MIPS	Millions of Instructions Per Second
MLRS	Multiple Launch Rocket System
MMDF	Multichannel Memorandum Distribution Facility
MOUT	Mounted Operations and Urban Terrain
MPRC	Multi-Purpose Range Complex
NPEDES	National Pollution Discharge Elimination Systems
NPL	National Priority Listing
OSCAR	Outside Cable Rehabilitation
RDC	Regional Data Center
RETS	Remote Target System
SCINET	Scientific Information Network
TCC	Telecommunications Center
UEPH	Unaccompanied Enlisted Personnel Housing
UOPH	Unaccompanied Officer Personnel Housing
UPH	Unaccompanied Personnel Housing
VTC	Video Teleconference
WAN	Wide Area Network

Document Separator

DEPARTMENT OF THE ARMY
CENTRAL REGION, U.S. ARMY AUDIT AGENCY
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REPLY TO
ATTENTION OF

SAAG-CER (36)

18 JUL 1994

MEMORANDUM FOR Commander, 101st Airborne Division (Air Assault) and Fort Campbell, ATTN: AFZB-IR, Fort Campbell, Kentucky 42223-5000

SUBJECT: Review of the Army Basing Study - Phase I - Installation Assessment -- INFORMATION MEMORANDUM CR 94-706

1. **Introduction.** This is our report on the audit of installation assessments that your command did for the 1995 Army Basing Study. The Director of Management requested we make the review. We will include data in this report in a summary report to higher management levels.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Appropriateness of data sources and methodologies used to obtain data values.

- Accuracy of reported data.

- Completeness of records maintained.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. Accordingly, we reviewed internal controls to the extent we deemed necessary under the circumstances. Our review consisted of reviewing appropriate reports, studies, maps, correspondence, and other supporting documentation maintained by installation personnel. We also conducted interviews with installation personnel. In addition, we selectively verified the existence of ranges, buildings, and other facilities on the installation.

3. **Background**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 furnishes a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. It divided the study process

into two phases. Under Phase I, the Army performs installation assessments to assess the relative military value of its installations. Under Phase II, the Army identifies and evaluates alternatives for realignment and closure. This memorandum only addresses our review of your command's data submitted for the installation assessment process.

b. **Attributes.** Fort Campbell is a subordinate activity of U.S. Army Forces Command and is categorized by the Army as a Maneuver Installation. Forces Command tasked Fort Campbell to report data for 15 of 17 attributes in this category. To report data for the 15 attributes, Fort Campbell had to obtain information for 96 separate data elements.

4. **Review Results.** We concluded that the data the installation reported was generally accurate and reliable for the Army to use in realignment and closure analyses. We found differences in the values reported for 12 data elements. The differences (both increases and decreases) for the data elements tended to offset one another. We report detailed results of our review of the data in the annex to this report.

a. **Data Sources and Methodologies.** Responsible personnel used appropriate data sources and methodologies to obtain values for the data elements.

- Personnel used the standard data sources identified in the installation assessment guidance from the Army Basing Study Group to gather information on the data elements.

- For data sources not specifically identified in the guidance, personnel used various installation databases, reports, and studies to compute the values for the data elements.

- Personnel used a report format provided by Forces Command. The format clearly showed the data elements that Fort Campbell was required to report.

b. **Accuracy of Reported Data.** Command generally reported accurate data values.

- We validated the information reported by command for 96 data elements for the 15 attributes. Fort Campbell used data from the Headquarters Real Property Planning and Analysis System (HQRPLANS) to report data for several of the elements to Forces Command. In some cases, Fort Campbell had to use

other sources for the data because some of the data in the Headquarters System wasn't accurate or current. We identified differences for 12 of the 96 data elements.

- Personnel at Forces Command worked with Fort Campbell personnel to obtain the required data. Fort Campbell reported its data elements to Forces Command on 23 May 1994. Fort Campbell personnel verbally advised Forces Command, until 10 June 1994, of revisions to some of the data element values. Forces Command also revised some of the values for the data elements during this period. We evaluated the accuracy of the revised data that Forces Command had as of 10 June 1994.

- On 10 June 1994, Forces Command personnel provided Fort Campbell with a schedule of revised data for the installation assessment. Fort Campbell didn't request Forces Command to change any of the data after 10 June 1994.

- We attributed most of the differences of the reported data and our verified data to different interpretations of guidance, outdated or inaccurate data in the Headquarters System, or mathematical errors in accumulating the data.

c. **Completeness of Records.** Except for two data elements, installation personnel generally had adequate documentation to support the values they reported.

- Fort Campbell didn't keep the supporting working papers for its computations of Army Reserve training--annual training and inactive duty training. Personnel who computed the data were no longer at Fort Campbell. At our request, Fort Campbell personnel reconstructed the data. We selectively verified the reconstructed data to Annual Historical Review Reports. We weren't able to verify the number of personnel in training as reported in the Annual Historical Review Reports because the training rosters for the Reserve units weren't at Fort Campbell.

- We couldn't verify the reasonableness of 7,475 off-post family housing units because command didn't keep the source documents to support the reported amount. Also, we didn't verify the reasonableness of the methodology used by Fort Campbell to determine the number of off-post family housing units. Fort Campbell estimated off-post family housing units

by taking responses received by the housing referral office and adjusting this amount for non-responses. At our request, housing managers provided us housing referral data current as of 20 June 1994. The data indicated that about 3 percent more families rented or owned homes than the number Fort Campbell reported to Forces Command. Housing managers said the slight increase could have been due to receiving more housing referral responses. The housing managers didn't have time during our review to adjust the data for those who didn't respond.

d. **Maneuver Rights Memorandum of Agreement.** The Memorandum of Agreement with the Tennessee Valley Authority for maneuver rights to 160,000 acres expired on 14 June 1994. Fort Campbell was in the process of obtaining a new memorandum of agreement. In April 1994, Fort Campbell personnel requested the U.S. Army Engineer District, Louisville, to prepare another memorandum of agreement with the Tennessee Valley Authority. However, at the time of our review Fort Campbell and the Tennessee Valley Authority hadn't signed a new memorandum of agreement.

5. **Discussion of Results.** We discussed the results of our review with Colonel Zannie Smith, Chief of Staff, Mr. Donnie Pogue of the Directorate of Resource Management, Mr. Joe Chaudoin of the Directorate of Public Works, and other personnel responsible for reporting specific data elements. They agreed with all of our conclusions, except our conclusion to exclude 1987 housing units occupied by bachelors that were included in the data element for off-post family housing spaces (Footnote a, Annex). Fort Campbell personnel agreed to report to Forces Command all the differences that we identified except for the difference with the off-post housing units occupied by bachelors. This report isn't subject to the official command-reply process.

Raymond L. McCaulley

RAYMOND L. MCCAULLEY
Regional Auditor General

SCHEDULE OF DATA ELEMENTS

Data Element	Unit of Measure	Values Reported By Fort Campbell	Values Verified By Army Audit Agency
Average Age of Facilities (Reported by Forces Command)			
Barracks and Family Housing			
Family Housing Units			
On-Post Spaces (FCG 7110F)	Spaces	4,248	4,248
Off-Post Spaces (FCG 7110P)	Spaces	9,539	0 *a
Permanent UOPH Spaces (FCG 7240P)	Spaces	48	48
Permanent UEPH Spaces (FCG 7210S)	Spaces	9,372	9,278 *b
BASOPS/Mission Population			
Base Operations (BASOPS)	Thousand $	61,817	61,817
Real Property Maintenance	Thousand $	20,817	20,817
Environmental Programs	Thousand $	13,347	13,347
Audio-Visual	Thousand $	762	762
Base Communications	Thousand $	3,582	3,582
Family Programs	Thousand $	2,313	2,313
FY 93 DOD RPMD (9730131)	Thousand $	9,845	9,845
Buildable Acres	Acres	9,000	9,000
Deployment Network			
Railhead Distance	Miles	0	0
Airport Distance	Miles	0	0
Seaport Distance	Miles	627	627
Interstate Highway Distance	Miles	4	4
Environmental Carrying Capacity			
Archaeological Factor			
Listed on National Register	Sites	0	0
Eligible/Potential Sites	Sites	72	72
Historical Building Factor			
Listed on National Register	Buildings	0	0
Eligible/Potential Buildings	Buildings	0	0
Endangered Species Factor	Species	0	0
Wetland Factor			
Total Wetland Acreage	Acres	2,544	2,544
Air Quality Factor			
In Attainment	Points	1	1
Water Quality Factor			
Number NPDES Exceeded	Times	386	386
Noise Quality Factor			
Total Acres AICUZ/ICUZ Zone II	Acres	14,086	14,086
Total Acres AICUZ/ICUZ Zone III	Acres	8,059	8,059
Contaminated Sites Factor			
Total Number of IRP Sites	Sites	38	38
Total Number of NPL Sites	Sites	0	0

Data Element	Unit of Measure	Values Reported By Fort Campbell	Values Verified By Army Audit Agency	
Family Housing Cost Per Dwelling Unit - Average AFHO Costs	$ per unit	4,923	5,037	*c
FY 93 AFH Operations Costs	$ per unit	5,528	5,655	*c
FY 92 AFH Operations Costs	$ per unit	4,895	5,009	*c
FY 91 AFH Operations Costs	$ per unit	4,346	4,447	*c
Impact Areas				
Impact Acres	Acres	22,629	22,659	*d
Air Force Bombing Capable	(Y/N)	5	5	
Attack Helicopter Capable	(Y/N)	5	5	
Tube Artillery Capable	(Y/N)	5	5	
Above Three All Yes	(Y/N)	15	15	
MLRS Capable	(Y/N)	0	0	
Information Mission Area	Points	1,310	1,335	
Telephone Switching	Points	450	450	
Main DCO Digital Switch (Y/N)	Points	5	5	
Percentage of Fill	Points	3	3	
Lines (Equipped)	Points	5	5	
Lines (Expandable to)	Points	5	5	
Outside Cable Plant	Points	260	260	
OSCAR Implementation Phase Completed	Points	3	3	
Cable Type (Fiber Backbone, Mixed or Copper)	Points	5	5	
Percentage of Fill	Points	5	5	
Common User Mainframe Architecture	Points	435	435	
Mainframe Type	Points	4	4	
Server Speed	Points	3	3	
Total MIPS	Points	4	4	
ASIMS (RDC or DPC)	Points	3	3	
E-Mail (Sperry/MMDF, Other, or None)	Points	5	5	
Front End Processor (FEP)	Points	5	5	
Super Computer	Points	0	0	
Common User DASD (GIGABYTES)	Points	5	5	
DSN/DDN Node	Points	25	50	*e
DSN (Y/N)	Points	5	5	
MILNET (Y/N)	Points	0	5	*e
DISNET (Y/N)	Points	0	0	
SCINET (Y/N)	Points	0	0	
Post-Wide WAN/LAN	Points	45	45	
Fiber Optic (Y/N)	Points	0	0	
Other (Y/N)	Points	3	3	
TCC	Points	50	50	
GENSER Type	Points	5	5	
DSSCS Type	Points	5	5	
AMME or ASC (Y/N)	Points	0	0	
Communication Secure Processor (Y/N)	Points	0	0	
VTC Facility	Points	45	45	
VTC Facility (Y/N)	Points	3	3	

Data Element	Unit of Measure	Values Reported By Fort Campbell	Values Verified By Army Audit Agency
Infrastructure			
Water Treatment Capability	(MGD)	7.6	7.6
Sewage Treatment Capability	(MGD)	4.0	4.0
Electrical Distribution Capability	(MVA)	44.0	112.5 *f
Land Fill ($ per Short Ton)	$	36	75.89 *g
Maneuver Acres			
Maneuver Acres	Acres	71,000	71,000
Maneuver Acre Rights	Acres	83,000	81,000 *h
Mechanized Maneuver Acres	Acres	51,000	51,000
Mobilization Capability			
Mobilization Billets	Spaces	11,468	15,838 *i
Percent Permanent Facilities (Reported by Forces Command)			
Ranges			
Number of MPRC	Number	1	1
Number of RETS Equipped Firing Points	Number	32	32
Standard MOUT Range Available (Y/N)	Points	0	0
Total Number of Ranges	Number	38	38
Reserve Training			
Anntual Training (Average)	People	7,077	7,077
FY 93	People	7,578	7,578
FY 92	People	5,784	5,784
FY 91	People	7,869	7,869
Inactive Duty Training (Average)	Mandays	58,396	60,578 *j
FY 93	Mandays	70,294	74,853 *j
FY 92	Mandays	58,808	60,764 *j
FY 91	Mandays	46,087	46,116 *j
Work Space (Total)	SF	3,077,000	2,989,000 *k & l
Aviation Maintenance	SF	877,000	877,000
Vehicle Maintenance	SF	690,000	604,800 *k
Administrative	SF	1,510,000	1,508,000 *l

*a - Fort Campbell personnel included 1,987 units occupied by bachelors in this data element. The Army Basing Study Group instructions said to include only family housing units for this data element and unaccompanied bachelor spaces on the installation for the data elements for permanent UOPH and UEPH spaces. Fort Campbell personnel said the bachelor units should have been included because Fort Campbell was in the process of making unaccompanied married soldiers move from the barracks to housing units on the local economy. Fort Campbell personnel included 77 leased housing units overstating leased housing units by 4. The remaining 7,475 units were an estimate

of the number of families who owned or rented local economy housing units. Personnel didn't retain supporting source documents so we couldn't verify the reasonableness of the estimate.

*b - Error in counting the number of barracks spaces.

*c - Fort Campbell personnel included 95 leased housing units and 1 unit dropped from the real estate inventory. The Army Basing Study Group's instructions for this attribute said leased housing units should be excluded in computing the cost per unit. Fort Campbell personnel thought it was more logical to include leased housing units because the instructions called for including housing lease costs in the total housing costs.

*d - Mathematical error.

*e - Forces Command guidance didn't clearly say that five points should be assigned to each element.

*f - Fort Campbell used actual usage data. Electrical distribution capacity should have been used. Fort Campbell's electrical distribution capacity was 112.5 MVA's. However, the electrical substation serving the installation had a capacity of only 62.0 MVA's.

*g - Fort Campbell uses only land fill area that is located off the installation. Fort Campbell personnel used one of several estimated tipping fee costs cited in an engineering report prepared in January 1993. The verified data is the tipping fee cost of $28 per short ton currently being paid in accordance with terms in the installation's contract for trash removal. In addition, the costs include $47.89 to have the trash picked up and hauled to the land fill.

*h - The Memorandum of Agreement with the Tennessee Valley Authority for maneuver rights to 160,000 acres expired on 14 June 1994. Fort Campbell was in the process of obtaining a new memorandum of agreement with the Tennessee Valley Authority. In April 1994, Fort Campbell personnel requested the Louisville Engineer District to prepare another memorandum of agreement with the Tennessee Valley Authority. At the time of our review, Fort Campbell and the Tennessee Valley Authority hadn't signed a new memorandum of agreement. No memorandum of agreement existed for maneuver rights to another 4,000 acres included in the computations.

*i - Forces Command entered the wrong amount for this data element.

*j - Fort Campbell didn't retain supporting working papers for its computations. Personnel who computed data were no longer at Fort Campbell. At our request, personnel reconstructed the data. We selectively verified the reconstructed data to Annual Historical Review Reports.

*k - Overstated 31,300 SF because personnel included the square footage for two buildings (approved for construction) twice in computations. Overstated 53,900 SF because personnel used an outdated FCG-Category Code crossreference table in computing square footage.

*l - Rounding error.

Legend

AFH	Army Family Housing
AFHO	Army Family Housing Operations
AICUZ	Air Force Installation Compatibility Use Zone
AMME	Automated Multimedia Exchange
ASC	Automated Switching Center
ASIMS	Army Standard Information Management System
DASD	Direct Access Storage Device
DCO	Dial Central Office
DISNET	Defense Information Systems Network
DPC	Data Processing Center
DSN	Defense Switched Network
DSSCS	Defense Special Security Communications System
FCG	Facility Category Group
FEP	Front End Processor
GENSER	General Service
ICUZ	Installation Compatibility Use Zone
IRP	Installation Restoration Plan
LAN	Local Area Network
MILNET	Military Network
MIPS	Millions of Instructions Per Second
MLRS	Multiple Launch Rocket System
MMDF	Multichannel Memorandum Distribution Facility
MOUT	Mounted Operations and Urban Terrain
MPRC	Multipurpose Range Complex
NPEDES	National Pollution Discharge Elimination Systems
NPL	National Priority Listing
OSCAR	Outside Cable Rehabilitation
RDC	Regional Data Center
RETS	Remote Target System
SCINET	Scientific Information Network
TCC	Telecommunications Center
UEPH	Unaccompanied Enlisted Personnel Housing
UOPH	Unaccompanied Officer Personnel Housing
UPH	Unaccompanied Personnel Housing
VTC	Video Teleconference
WAN	Wide Area Network

Cost of Base Realignment Action (COBRA) Model

The Army Basing Study 1995

U.S. Army Audit Agency

6 January 1995
Audit Report: SR 95-755

DEPARTMENT OF THE ARMY
SOUTHEASTERN REGION, U.S. ARMY AUDIT AGENCY
7526 CONNELLEY DRIVE, SUITE J
HANOVER, MARYLAND 21076-1663

6 January 1995

Director of Management

This is our report on the audit of the Cost of Base Realignment Action (COBRA) model. The audit was part of the audit support you requested for the 1995 Army Basing Study. We will include these results in a summary report at the end of the study.

These are the report's key sections.

- The Summary of the Audit describes what we audited and found.

- General Information describes the audit scope and methodology, background, and responsibilities and resources for the Cost of Base Realignment Action model.

- Annex A lists the model's enhancements for 1995; Annex B shows the Army Basing Study Office's verbatim comments; Annex C lists others receiving copies of the report; and Annex D lists the audit staff.

I appreciate the courtesies and cooperation extended to us during the audit.

FOR THE AUDITOR GENERAL:

Stephen E. Keefer

STEPHEN E. KEEFER
Regional Auditor General

CONTENTS

Page

Summary of the Audit

What We Audited 5

Objectives and Conclusions 5

Command Comments 9

General Information

Audit Scope and Methodology 13

Background 13

Responsibilities and Resources 15

Annexes

A - Cost of Base Realignment Action Model Enhancements for the 1995 Commission . . 19

B - Verbatim Command Comments 22

C - Others Receiving Copies of the Report 23

D - Audit Staff 24

SUMMARY OF THE AUDIT

WHAT WE AUDITED

We audited the Cost of Base Realignment Action (COBRA) model as part of our ongoing support to the Army Basing Study 1995 that the Director of Management requested.

The model calculates costs and savings of base realignment and closure recommendations. U.S. General Accounting Office reports on previous recommendations of the 1991 and 1993 Base Closure and Realignment Commissions have discussed weaknesses in the model and its application by users. DOD and the Army have addressed most of these weaknesses, and other issues that users identified, through improvements and enhancements to the model. One outstanding concern is the General Accounting Office's desire for an independent validation of the model's formulas.

OBJECTIVES AND CONCLUSIONS

We established three objectives for our audit. Here are our overall conclusion, objectives, and detailed conclusions:

Overall Conclusion: The Cost of Base Realignment Action model reliably calculated costs, savings, and net present values. Also, planned enhancements to the model for the 1995 process adequately address the General Accounting Office's concerns and will make the model more user-friendly. However, the bases for the model's calculations are standard factors and base-specific workload data that users control. The model's accuracy and consistency are dependent on the accuracy of the factors and data. Thus, users should continue to have strong management controls to make sure that this information is accurate and complete.

Objective: To determine whether the Cost of Base Realignment Action model calculated cost and savings estimates as prescribed in the operator's manual.

Conclusion: The model correctly calculated cost and savings estimates as shown in the operator's manual for three of the four algorithms we reviewed. The algorithm in the operator's manual for base operations support savings didn't reflect the algorithm that the software used. With assistance from the Army Basing Study Office, we obtained the formula the software used and

use the formulas shown in the operator's manual. Our analysis showed that the model's software formulas, however, were the proper formulas. Basing Study Office personnel took immediate action to have the operator's manual revised.

Our recalculations verified the accuracy of the model's calculations, as shown in the following table:

Model Cost and Savings Calculations

Cost/Savings Element	Calculations Model	Audit	Difference
Military Construction (Dollars in 000's)	$ 39,847	$ 39,848	$(1)
Miscellaneous Recurring Costs (Annual)	278,078	278,078	0
Civilian Salaries-Savings (Annual)	625,747	625,750	(3)
Base Operations Support Savings (Annual)	195,952	195,952	0

We concluded that the minor differences were due to rounding and wouldn't have affected base realignment and closure decisions.

Objective: To determine whether the algorithm for calculating net present value in the Cost of Base Realignment Action model was accurate.

Conclusion: The model properly calculated net present value.

The net present value algorithm is made from a standard arithmetic formula. We compared the model's calculations with calculations from another software model to test for accuracy and consistency in use of standard formulas. We used the Automated Economic Analysis Package computer model, version 3.0, for our baseline. This package is a U.S. Army Corps of Engineers' software program. We had reviewed the Economic Package previously and determined that the formulas were accurate and used the classic text book examples for its computations.

We used the same cost and savings elements, discount rate, and analysis period in the Economic Package as the Army used in the model for its seven recommendations in the 1993 round.

COMMAND COMMENTS

The Army Basing Study Office agreed with our conclusions and furnished information to update the planned enhancements for 1995 (Annex A). Annex B contains verbatim comments.

GENERAL INFORMATION

AUDIT SCOPE AND METHODOLOGY

We performed the audit:

- From January through November 1994.
- In accordance with generally accepted government auditing standards and included tests of internal controls that we considered necessary under the circumstances.

The audit used calculations the Army made with the Cost of Base Realignment Action (COBRA) model during the 1993 base realignment and closure round for:

- Fort George B. McClellan, Alabama.
- Vint Hill Farms Station, Virginia.
- Presidio of Monterey, California.
- Fort Monmouth, New Jersey.
- Letterkenny Army Depot, Pennsylvania.
- Tooele Army Depot, Utah.
- Fort Belvoir, Virginia.

Based on information contained in the Appropriations Detail Reports for the seven installations, we identified the significant cost and savings elements for fiscal years 1994 and beyond. Total costs and savings associated with the Army's recommendations were $1.128 billion and $1.366 billion, respectively.

We performed a review of enhancements to the model and made comparisons of model formulas with other Army-approved computer software models. In addition, we performed manual recalculations of four algorithms relating to cost and savings estimates.

BACKGROUND

The Cost of Base Realignment Action model is a DOD standard computer model that serves as a consistent method for evaluating realignment and closure options. The model is designed to estimate the costs and savings associated with a proposed realignment or closure alternative. The model is intended to use data that is readily available to military

RESPONSIBILITIES AND RESOURCES

The Assistant Secretary of Defense for Economic Security designated the Army as the lead agency for making enhancements to the Cost of Base Realignment Action computer model.

The Assistant Secretary of the Army (Installations, Logistics and Environment) is responsible for policy and management of all Army base realignment and closure initiatives.

The Army Basing Study Office, under the Director of Management, is the proponent for the model. The office established the Joint Process Action Team for the model. Team members consist of representatives from the:

- Office of the Secretary of Defense.
- Defense agencies.
- Military departments.

The team is responsible for:

- Monitoring, approving or disapproving, and controlling the changes to the model.
- Requiring that all proposed changes are documented through analysis for effectiveness and interface requirements.

The cost for revising the model for FY 95 was $213,866. The Army's portion was $68,819.

ANNEXES

COST OF BASE REALIGNMENT ACTION MODEL

ENHANCEMENTS FOR THE 1995 COMMISSION

Weakness and/or Limitation in 1993 Version	Planned Enhancement
Family housing cost algorithm counted all costs as savings even in cases where family housing assets weren't completely shut down.	Family housing algorithm will apply a percentage rate to family housing costs to identify savings.
Full mothball/shutdown costs were calculated for a closed activity regardless of the number of square feet entered. Also, the model didn't calculate shutdown costs for realigned activities when necessary.	Shutdown costs will be calculated based on square feet of activity closed or realigned.
Administrative planning and support costs were calculated at incorrect timeframes and scenarios. Some output reports displayed different costs and savings.	Administrative planning and support costs will calculate only during the following closing events: personnel movement, equipment movement, elimination of personnel, or shutdown of realignment events.
Some output reports displayed cost and savings data that were inconsistent with the output and related algorithms.	A single set of cost and savings figures will be compiled and placed in the output reports.
The model didn't provide a summary of cost and savings data on a collection of scenarios.	Cost and savings data can be summarized on a collection of scenarios.
Some output reports were no longer useful.	Unnecessary reports will be eliminated.

Weakness and/or Limitation in 1993 Version	Planned Enhancement
"Other cost" not properly classified in the model; example was Priority Placement which should have been shown as a moving cost.	"Other cost" will be properly identified and recategorized.
Lease cost and costs associated with tenant organizations weren't clearly identified.	The model will include algorithms reported for leased space and tenant organizations. (This enhancement was revised. See Annex B.)
Base operations personnel costs beyond the number relocating from losing sites weren't captured.	Costs associated with relocating base operations personnel beyond the number relocating from the losing site will be captured in the model.
Force structure changes for students weren't allowed.	A line for military students will be included on the force structure screen.
Recurring costs and savings were calculated for a full year for closures and realignments.	Recurring costs and savings will be computed based on a percentage in the year of change, except for base operating costs.
User had to input Headquarters Real Property and Analysis System factors manually.	Factors will be electronically loaded into the model.

OTHERS RECEIVING COPIES OF THE REPORT

Assistant Secretary of the Army (Civil Works)
Assistant Secretary of the Army (Financial Management and Comptroller)
Assistant Secretary of the Army (Installation, Logistics and Environment)
Assistant Secretary of the Army (Manpower and Reserve Affairs)
Assistant Secretary of the Army (Research, Development and Acquisition)
General Counsel
Director of the Army Staff
The Inspector General
Chief of Legislative Liaison
Chief of Public Affairs
Deputy Chief of Staff for Operations and Plans
Deputy Chief of Staff for Personnel
Deputy Chief of Staff for Logistics
Assistant Chief of Staff for Installation Management
Chief of Engineers
Chief, National Guard Bureau
Director, Army National Guard
Chief, Army Reserve
Commanders
- U.S. Army Forces Command
- U.S. Army Training and Doctrine Command
- U.S. Army Military District of Washington
- U.S. Army Criminal Investigation Command
- U.S. Army Intelligence and Security Command
- U.S. Army Reserve Command
- Third Region, U.S. Army Criminal Investigation Command

Commandant, U.S. Army Logistics Management College
Director, Center for Army Lessons Learned

Comptroller, Department of Defense
Inspector General, Department of Defense
Directors
- Defense Intelligence Agency
- Defense Logistics Studies Information Exchange
- Defense Logistics Agency

Auditors General
- Air Force Audit Agency
- Naval Audit Service

Data Furnished DOD Cross-Service Work Groups

U.S. Army Depot System Command

U.S. Army Audit Agency

31 October 1994
Audit Report: NR 95-700

CLOSE HOLD

DEPARTMENT OF THE ARMY
U.S. ARMY AUDIT AGENCY
NORTHEASTERN REGION
1027 ARCH STREET
PHILADELPHIA, PENNSYLVANIA 19107-2317

31 October 1994

Director, Total Army Basing Study Office
Commander, U.S. Army Industrial Operations Command

This is the report on our audit of data furnished to the cross-Service work group on depot maintenance for the 1995 base realignment and closure process. The Director of Management requested the audit. Because the audit was part of a multilocation audit, we will include these results in an overall report to senior Army management.

These are the report's key sections:

- The Summary of the Audit is an overview of what we audited and found.

- General Information tells how we conducted the audit and gives other important information on matters related to the audit.

- Annex A contains verbatim command comments. Annex B lists the activities included in the audit and the period of audit work. Annex C includes the data elements reviewed. Annex D lists others receiving copies of the report. Annex E shows the audit staff.

This report isn't subject to the command-reply process that Army Regulation 36-2 prescribes.

I appreciate the courtesies and cooperation extended to us during the audit.

FOR THE AUDITOR GENERAL:

Robert A Rak
for HENRY P. CULLERTON
Regional Auditor General

CONTENTS

Page

Summary of the Audit

What We Audited 5

Background 5

Objectives and Conclusions 5

Command Comments 8

Agency Evaluation of Command Comments 9

General Information

Audit Scope and Methodology 13

Background 13

Responsibilities 14

Annexes

A - Verbatim Command Comments 19

B - Activities Included in the Audit 21

C - Data Elements Reviewed 22

D - Others Receiving Copies of the Report 25

E - Audit Staff 26

SUMMARY OF THE AUDIT

WHAT WE AUDITED

We audited U.S. Army Depot System Command's response to the data call of DOD's Cross-Service Work Group on Depot Maintenance. The work group is one of six formed as part of the 1995 base realignment and closure process. The audit focused on the accuracy of the information reported to the work group.

The data call consisted of 39 elements. The elements were a mix of objective and subjective questions on a depot's mission, workload and facilities. The Depot System Command's Directorate of Maintenance developed the data for 7 elements, while the 5 maintenance depots included in the call provided the information for the remaining 32 elements.

Command reported the data to the Total Army Basing Study Office, which will submit it to the DOD work group.

The audit was part of a multilocation audit of the data furnished to all the DOD work groups. Therefore we will include the results in a summary report to senior Army management.

BACKGROUND

On 1 October 1994, the U.S. Army Industrial Operations Command assumed the duties and responsibilities formerly carried out by Depot System Command. For the purposes of this report, we will refer to Depot System Command.

OBJECTIVES AND CONCLUSIONS

We established three objectives for the audit. Here are those objectives and our conclusions:

Objective: To determine whether the data the Depot System Command reported was accurate and adequately supported.

Conclusion: Most of the data reported by the Depot System Command was accurate and adequately supported. But

until we saw the data from all depots during this audit.

Unique Workload. We believe most of the five depots involved in the data call incorrectly stated their unique workload:

- Anniston, Corpus Christi and Letterkenny Army Depots reported that all their workload was unique.

- Red River Army Depot reported that about 67 percent of its workload was unique.

- Tobyhanna Depot reported that about 17 percent of its workload was unique.

We believe some depots reported that all their workload was unique because Army depots specialize in repairing certain end-items, and each end-item is almost always repaired at one depot. However, only Corpus Christi Depot has a truly unique function. It repairs only helicopters and is the only Army depot that does.

The other depots aren't so specialized. For example, Letterkenny, Anniston and Red River Depots repair tracked and wheeled vehicles, but different models. Letterkenny and Tobyhanna Depots both repair electronics equipment, with Letterkenny specializing in missile systems while Tobyhanna specializes in radar, avionics, and command and control systems. Other overlaps in mission and capability exist throughout the depot system.

When we raised this issue, personnel at Depot System Command told us the DOD guidance didn't specifically define unique workload. They also believed that as centers for technical excellence, depots could consider the workload for the commodities they repair to be unique. However, the Total Army Basing Study Office and the DOD work group didn't agree with this definition of uniqueness. The office directed command to redo the data on unique workload so that depots reported only workload that *could not be done* at any other Army depot. Command hadn't completed the revision of the information to meet this criterion when we concluded our review.

COMMAND COMMENTS

The Total Army Basing Study Office reviewed the report and provided no comments (we made no recommendations to that office).

The Depot System Command agreed with the recommended actions we gave it during the audit. However, it disagreed with two issues in the report:

- Command didn't agree that the unique workload data submitted was incorrect. It said its contact with the Basing Study Office after the auditors raised this issue indicated that the office was satisfied with the data and didn't desire to have it reworked.

- Command didn't agree that its procedures for processing data from the depots were inadequate. It said the report failed to acknowledge that the data call's abnormally short timeframe didn't allow command to make a comprehensive review of depot submissions. Command said that depot commanders or their delegated representative attested to the accuracy and completeness of the data.

Command's verbatim comments are in Annex A.

AGENCY EVALUATION OF COMMAND COMMENTS

The Total Army Basing Study Office wasn't satisfied with the unique workload data submitted. It directed U.S. Army Materiel Command (the Depot System Command's major command) to review and rework the data so that it showed workload that could be done only at the depot involved.

We noted in our report that Depot System Command personnel didn't believe the data call timeframe permitted a comprehensive review of depot submissions.

GENERAL INFORMATION

AUDIT SCOPE AND METHODOLOGY

We performed the audit:

- From June through August 1994.
- In accordance with generally accepted government auditing standards and included the tests of internal controls that we considered necessary under the circumstances.

The audit covered transactions representative of operations current at the time of the audit.

We reviewed 20 of the 39 elements in the data call for 3 of the 5 participating depots. We:

- Reviewed guidance from the cross-Service work group, DA and U.S. Army Materiel Command and compared it with procedures used to respond to the data call.
- Interviewed personnel from U.S. Army Depot System Command and the depots who prepared, reviewed and validated responses to the data elements.
- Reviewed maps, floor plans, budget reports, contracts, program notices, support agreements, industrial engineering studies, and program summary reports.
- Toured maintenance facilities.
- Tested the accuracy of selected source documentation.
- Verified calculations of data values.

BACKGROUND

The Defense Base Closure and Realignment Act of 1990, as amended, gives DOD a way to make needed adjustments to the installation structure. On 7 January 1994, the Deputy Secretary of Defense established DOD-led work groups to evaluate opportunities for cross-Service base closure and realignment actions. The six work groups are:

- Military Treatment Facilities and Graduate Medical Education Centers.

Depot System Command (the Materiel Command's lead activity for the depot maintenance data call) was responsible for:

- Reviewing the responses to the data call from the five depots.

- Preparing the responses for seven of the elements in the data call.

- Submitting the responses (through Materiel Command) to the Basing Study Office.

Depot System Command consisted of eight depots and five depot activities. It had about 20,000 military and civilian employees and managed an annual operating budget of more than $2 billion.

ANNEXES

DEPARTMENT OF THE ARMY
HEADQUARTERS, U. S. ARMY DEPOT SYSTEM COMMAND
CHAMBERSBURG, PENNSYLVANIA 17201-4170

REPLY TO
ATTENTION OF

AMSDS-IR

16 SEP 1994

MEMORANDUM FOR Regional Auditor General, U.S. Army Audit Agency, Northeastern Region, 1027 Arch Street, Philadelphia, PA 19107-2317

SUBJECT: Draft Report on the Data Furnished DOD Cross-Service Work Group, U.S. Army Depot System Command

1. The U.S. Army Depot System Command reply to subject draft report is enclosed. We disagree with two issues in the draft report, however, it should be noted that errors identified by USAAA were corrected and revised data was submitted to the Total Army Basing Study Office. No additional corrective actions are planned.

2. The point of contact is Mr. Frank Boyle, DSN 570-9536.

FOR THE COMMANDER:

P.G. PHILLIPS, JR.
Colonel, GS
Chief of Staff

Encl

CLOSE HOLD

ACTIVITIES INCLUDED IN THE AUDIT

Activity	Audit Period	Audit Report Number
U.S. Army Depot System Command		
Headquarters	Jun-Aug 94	a/
Corpus Christi Army Depot	Jun-Aug 94	WR 94-708
Letterkenny Army Depot	Jun-Aug 94	NR 94-713
Tobyhanna Army Depot	Jun-Aug 94	NR 94-714

a/ This report includes results from the audit of this activity. We didn't report the results separately.

DATA ELEMENTS REVIEWED

Core Workloads (Element 13.1)

The Directorate of Maintenance provided the core workload to be applied against the core capabilities in data elements 12.1 and 12.2. The data is direct labor hours for each depot by commodity group for FYs 96-99.

The workload data for Corpus Christi, Letterkenny and Tobyhanna Depots was generally accurate and supported. However, for one commodity group at each depot, core workload exceeded core capabilities. For example, at Corpus Christi Depot, the core workload for aircraft components is at least three times the core capability the Army required for FYs 96-99. Here's a summary:

	Workload			
	FY 96	FY 97	FY 98	FY 99
	(Millions of Direct Labor Hours)			
Corpus Christi Depot, Aircraft Components				
Core Workload	.952	1.038	1.064	1.088
Core Capabilities	.309	.309	.309	.309
Difference	.643	.729	.755	.779
Letterkenny Depot, Missiles Tactical				
Core Workload	.499	.475	.517	.527
Core Capabilities	.465	.465	.465	.465
Difference	.034	.010	.052	.062
Tobyhanna Depot, Missiles				
Core Workload	.042	.042	.035	.029
Core Capabilities	0	0	0	0
Difference	.042	.042	.035	.029

Personnel from the cross-Service work group for depot maintenance told us that the figure reported for this element should be limited to core capabilities (the reporting guidance asked for the workload that could be *applied against* capability). But work group personnel said the data was acceptable if the Army was consistent in its reporting (that is, the Army reported core workload regardless of whether it was higher or lower than capability). Because the reporting was consistent, we didn't recommend that Depot System Command revise the data.

OTHERS RECEIVING COPIES OF THE REPORT

Assistant Secretary of the Army (Financial Management and Comptroller)
Assistant Secretary of the Army (Installations, Logistics and Environment)
Director of the Army Staff
The Inspector General
Chief of Public Affairs
Deputy Chief of Staff for Operations and Plans
Deputy Chief of Staff for Personnel
Deputy Chief of Staff for Logistics
Assistant Chief of Staff for Installation Management
Director of Management
Commanders
  U.S. Army Materiel Command
  U.S. Army Criminal Investigation Command
  Corpus Christi Army Depot
  Letterkenny Army Depot
  Tobyhanna Army Depot
  Third Region, U.S. Army Criminal Investigation Command
Commandant, U.S. Army Logistics Management College
Director, Center for Army Lessons Learned

Comptroller, Department of Defense
Inspector General, Department of Defense
Directors
  Defense Intelligence Agency
  Defense Logistics Studies Information Exchange
Auditors General
  Air Force Audit Agency
  Naval Audit Service

Document Separator

DEPARTMENT OF THE ARMY
WESTERN REGION
U.S. ARMY AUDIT AGENCY
8610 BROADWAY, SUITE 200
SAN ANTONIO, TEXAS 78217

SAAG-WER (36-5e) 5 August 1994

MEMORANDUM FOR Commander, Corpus Christi Army Depot,
308 Crecy Street, Corpus Christi, TX
78419-5260

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-708

1. **Introduction.** This is the report on our review of the data that the Corpus Christi Army Depot provided for the depots maintenance data call for the DOD cross-service work group. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.

- Supported by reasonable documentation.

- In accordance with cross-service work group, DA, and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished DOD cross-service groups, we:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures used by Depot personnel to respond to the cross-service group data call.

- Interviewed personnel or reviewed supporting documentation from the Directorate of Business Operations, Directorate of Engineering Services, Directorate of Resource Management, Directorate of Quality Control and Production Support, Directorate of Contracting, Directorate of

Airframe Production, Directorate of Engine Production, Directorate of Manufacturing, Directorate of Components Production, Directorate of Industrial Risk Management, and Directorate of Personnel who helped prepare, review, and validate responses to the data elements.

- Tracked responses to data elements to supporting documentation including Naval Air Station Facilities Master File; Army Regulation 415-28, 10 August 1973; Corpus Christi Army Depot Master Site Layout; South Texas Military Facilities Task Force Depot Profiles, Joint Depot Maintenance Analysis Group Technology Assessment Division, September 1993; supporting documentation provided by various depot organizational element personnel; and Support Agreements.

- Tested the accuracy of selected source documentation.

- Verified calculations of data values.

3. **Background.**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service base realignment and closure actions. Those work groups focus on:

- Medical Treatment Facilities.

- Test and Evaluation Facilities.

- Laboratory Facilities.

- Undergraduate Pilot Training.

- Depot Maintenance Activities.

- Economic Impact.

b. **Army Process.** Army guidance required activities to provide general information to assess and identify cross-service opportunities. Activities were to furnish these responses to their major commands which will then provide data to the Army Basing Study Office. The Army Basing Study Office then provides data to each of the cross-service work groups. This memorandum addresses only your command's response to the Depot data call.

c. **Depot Maintenance Data Call.** The Depot maintenance data call consisted of 39 elements. The Depot was required, as a subordinate of U.S. Army Depot System Command, to provide responses for 31 of the elements in the depot data call. Responses for 7 of the remaining data elements were provided by the Depot System Command. The other data element was left blank at the direction of U.S. Army Materiel Command. We evaluated the accuracy and supporting documentation for 20 of the data elements.

4. **Results of Review.** Generally the Depot reported accurate data for 11 of 20 elements and inaccurate data for 1 of the elements we reviewed. Seven data elements were provided by Depot System Command, and the other element was left blank at the direction of U.S. Army Materiel Command. Details on the elements we reviewed and differences noted are in the annex. Conclusions on specific objectives follow:

a. **Accuracy of Reported Data.** The Depot reported accurate data for 11 elements we reviewed. Reported data for one element included errors.

(1) **Accurate Data.** We didn't identify any discrepancies in data reported for:

- Unique/peculiar facilities, testing facilities - list and explain.
- Unique/peculiar facilities, reasons required for depot maintenance.
- Unique/peculiar facilities, how could maintenance be performed without them?
- Unique/peculiar capabilities and capacities, unique and/or peculiar capabilities and capacities.

- Unique/peculiar capabilities and capacities, one of a kind facilities and equipment.

- Interface with customers.

- Location.

- Buildings and their conditions, space for expansion for most mission important category codes.

- Other collocated activities, which directly benefit the depot activity and their impact.

- Other collocated activities, which support or are supported by the activity.

- Other collocated activities, how would these activities function if not collocated.

(2) **Inaccurate Data.** Data reported for one element, buildings and their conditions, was over stated by 195,000 square feet due to computational errors. The errors were corrected, and the data was retransmitted to U.S. Army Depot System Command.

b. **Supporting Documentation.** Corpus Christi maintained sufficient supporting documentation for 12 of the 20 elements reviewed. An audit trail was not available for 7 elements because the data element was provided by Depot System Command. The elements were:

- Core capability in direct labor hours needed to support Army core requirements.

- Core capability in direct labor hours needed to support other services requirements.

- Core workload in direct labor hours.

- Unique/peculiar workloads in direct labor hours, direct labor hours which are core.

- Unique/peculiar workloads in direct labor hours, direct labor hours which are not core.

- Annual operating costs, annual operating costs dollars for depot maintenance, excluding materials, FYs 90 through 93.

- Annual operating costs, annual operating costs per direct labor hour.

The other element core capability in direct labor hours percentage of core requirements which are title 10 requirements was left blank at the direction of Army Materiel Command.

c. **Compliance With Cross-Service, DA, and Major Command Guidance.** Generally, the depot gathered and reported data consistent with, cross-service work group, DA, and major command guidance. For example, the depot commander certified the data was accurate to the best of his knowledge.

5. **Discussion of Results.** We discussed the results of our review with the Civilian Executive Assistant, Corpus Christi Army Depot and the Directorate of Business Operations on 13 July 1994. They agreed with our conclusions and said that actions had been taken to correct and retransmit inaccurate data element responses to U.S. Army Depot System Command. This report isn't subject to the official command-reply process.

6. Thank you for the courtesies and cooperation extended to us during the review.

for Ronald D Anderson
KENNETH R. SHAW
Regional Auditor General

CF:
Inspector General, Department of Defense
Army Basing Study Office
U.S. Army Materiel Command
Commander, Depot System Command
SAAG-SER

DATA ELEMENTS RESPONSES

ELEMENT	DESCRIPTION	RESPONSE
Data Element 12.1.a	Core Capability in Direct Labor Hours Needed to Support Army Core Requirements	FY 96 - 2.785 (million) FY 97 - 2.785 FY 98 - 2.785 FY 99 - 2.785

We verified the mathematical accuracy for the above table. However, source documentation was not verified since U.S. Army Depot System Command provided direct labor hour data without supporting documentation.

Data Element 12.2.a	Core Capability in Direct Labor Hours Needed to Support Other Services Requirements	FY 96 - .059 (million) FY 97 - .059 FY 98 - .059 FY 99 - .059

We verified the mathematical accuracy for the above table. However, source documentation was not verified since U.S. Army Depot System Command provided direct labor hour data without supporting documentation.

Data Element 12.3.a	Core Capability in Direct Labor Hours percentage of Core Requirements which are Title 10 Requirements (Army Controlled)	Data element left blank at the direction of Army Materiel Command.
Data Element 13.1.a	Core Workload in Direct Labor Hours	FY 96 - 2.900 (million) FY 97 - 2.995 FY 98 - 2.967 FY 99 - 3.165

We verified the mathematical accuracy for the above table. However, source documentation was not verified since U.S. Army Depot System Command provided direct labor hour data without supporting documentation.

Data Element 15.1	Unique/Peculiar Workloads in Direct Labor Hours which are Core	FY 96 - 2.900 (million) FY 97 - 2.995 FY 98 - 2.967 FY 99 - 3.165

We verified the mathematical accuracy for the above table. However, source documentation was not verified since U.S. Army Depot System Command provided direct labor hour data without supporting documentation.

Data Element 15.2	Unique/Peculiar Workloads in Direct Labor Hours which are not Core	FY 96 - .607 (million) FY 97 - .640 FY 98 - .639 FY 99 - .668

We verified the mathematical accuracy for the above table. However, source documentation was not verififed since U.S. Army Depot Systems Command provided direct labor hour data without supporting documentation.

ANNEX

Data Element 6.1	Unique/Peculiar Facilities, Testing Facilities - List and Explain	Aircraft parking, operational check, taxiway, take-off and landing zone.

Existence of facility was verified. Uniqueness of facility was a subjective evaluation of facility based on experience of depot personnel.

Data Element 6.2	Unique/Peculiar Facilities, Reasons Required for Depot Maintenance	Flight testing is required to complete aircraft maintenance process.

Requirement for flight testing verified through review of maintenance procedures.

Data Element 6.3	Unique/Peculiar Facilities, How could maintenance be performed without them?	Only alternative is to tow or truck aircraft to another location for flight testing.

Alternative verified by confirming flight testing requirement and logic of alternative site flight testing if facility not available.

Data Element 8.1	Unique/Peculiar Capabilities and Capacities	Corpus Christi Army Depot is only Army organic facility for the repair and over-haul of rotary wing aircraft.

Data element was verified by a judgmental sample of various supporting statements such as overall repair statistics, types of aircraft repaired, and types of aircraft repair facilities available.

Data Element 8.2	Unique/Peculiar Capabilities and Capacities, One of a Kind Facilities and Equipment	Corpus Christi Army Depot has 25 one of a kind facilities and equipment.

Data element was verified by a judgmental sample confirming the existence of the facilities and equipment. Uniqueness of facilities and equipment was based on experience and knowledge of various depot personnel and was not independently verifiable.

Data Element 19.1	Annual Operating Costs, excluding materials	FY 90 - 195,417 FY 91 - 196,498 FY 92 - 200,199 FY 93 - 228,586 (Thousands $)

Data element furnished by U.S. Army Depot Systems Command and reasonableness confirmed by depot comparison to local cost data.

Data Element 19.2	Annual Operating Costs, per Direct Labor Hour excluding materials	FY 90 - 44.21 FY 91 - 45.64 FY 92 - 53.82 FY 93 - 73.77

Data element furnished by U.S. Army Depot Systems Command and supporting documentation was not available locally to verify data element.

Data Element 17.1	Interface with customers	Narrative of how various relationships with customers operate.

Data element verified by comparing each customer narrative to supporting documentation provided by various depot organizational element personnel.

Data Element 1.1	Location	Narrative of depot location relative to industrial facilities, transportation facilities, and climate's effect on flight testing.

Data element verified by judgmental sample of narrative to source documentation (South Texas Military Task Force Depot Profiles 1993, Joint Depot Maintenance Analysis Group Technology Assessment Division September 1993).

Data Element 7.1	Buildings and their Conditions, Area in thousands of square feet, SF by Category Code, SF by Condition within Category Code	2,033.15 thousands of square feet in adequate condition; originally reported 2.228 thousands of square feet

Data element verified by measurement of a judgmental sample of buildings and a comparison of SF to building drawings for building 8.

Data Element 7.2	Buildings and their Conditions, Space for expansion for most important category codes	Hangers - 8.04 thousands of square feet Production Space - 59.86 thousands of square feet Total - 67.90 thousands of square feet

Data element was verified by discussion with depot personnel regarding rational for percentage of existing space used to develop data element.

Data Element 4.1	Other Collocated Activities, Which Directly Benefit the Depot Activity and the Impact.	Narrative of seven collocated activities and benefits they receive from depot

Data element was verified by comparison of activities to South Texas Military Task Force Depot Profiles 1993, Joint Depot Maintenance Analysis Group Technology Assessment Division September 1993 and depot support agreements.

Data Element 4.2	Other Collocated Activities, Which Support or are Supported by the Activity	Narrative of seven collocated activities which support or are supported by depot

Data element was verified by review of support agreements for collocated activities.

Data Element 4.3	Other Collocated Activities, How would these Activities Function if not Collocated?	Narrative of seven collocated activities and how activities would function if not collocated with depot.

Data element was verified by comparisons of narrative to supporting documentation provided by various depot organizational element personnel.

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SAAG-WER (36-5e) 15 July 1994

MEMORANDUM FOR Commander, U.S. Army White Sands Missile Range, ATTN: STEWS-IR, White Sands Missile Range, NM 88002-5001

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-709

1. Introduction. This is the report on our review of the data that the U.S. Army White Sands Missile Range provided for the test and evaluation data call for the DOD cross-service work group. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. Objectives and Scope. The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group, DA, and U.S. Army Test and Evaluation Command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished DOD cross-service groups, we:

- Reviewed cross-service work group, DA, and Test and Evaluation Command guidance and compared it with procedures used by White Sands Missile Range personnel to respond to the cross-service group data call.
- Interviewed command personnel who helped prepare, review, and validate responses to the data elements.
- Reviewed data sources and methodologies used and compared them to the DA guidance.

SAAG-WER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-709

- Reviewed source documents and compared the data values to the data reported.

- Verified calculations of data values.

3. Background.

a. Cross-Service Work Groups. The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service base realignment and closure actions. Those work groups are the:

- Medical Treatment Facilities and Graduate Medical Education Centers work group.

- Test and Evaluation Facilities work group.

- Laboratory Facilities work group.

- Undergraduate Pilot Training work-group.

- Military Depots work group.

- Economic Impact work group.

Each of the work groups prepared a data call requiring activities provide general information needed to assess and identify cross-service opportunities. The Chief of Staff, United States Army issued a 21 March 1994 memorandum implementing Office of the Secretary of Defense guidance and providing procedural instructions for Army data calls. Generally, each of the Army activities identified in the cross-service data calls were to furnish responses to the major commands which provided certified data to the Army Basing Study Office. The Army Basing Study Office then provided data to each of the cross-service work groups. This memorandum addresses only your command's response to the test and evaluation data call.

b. Attributes. White Sands Missile Range is a test range under the control of the Test and Evaluation Command, a subordinate command of the U.S. Army Materiel Command. As a test and evaluation facility, White Sands Missile Range was required to provide responses for 94 elements in the test and evaluation data call. We evaluated the accuracy and supporting documentation for 22 data elements. Our

review also included the responses that were furnished by the U.S. Army Electronic Proving Grounds at Fort Huachuca.

4. **Results of Review.** The data provided by White Sands Missile Range and the Electronic Proving Grounds was generally accurate. Also, the data was supported by reasonable documentation, and in accordance with guidance furnished by the cross-service group, DA, and the Test and Evaluation Command. The elements we reviewed are listed in the Annex. Conclusions on specific objectives follow:

- White Sands Missile Range and the Electronic Proving Grounds reported accurate data for all 22 elements we reviewed. During the review, we noted five data elements that had minor mathematical and typographical errors. Command personnel initiated corrective actions and submitted change sheets for each error.

- White Sands Missile Range didn't maintain sufficient supporting documentation for three of the elements reviewed. At our request, command personnel accumulated additional documentation to support their responses. The Electronic Proving Grounds had adequate documentation for all 22 data elements we reviewed. Command personnel used expert knowledge to answer 10 elements. At our request, they provided adequate rationale for their answers.

- White Sands Missile Range and the Electronic Proving Grounds reported the data elements in accordance with the guidance furnished by the cross-service work group, DA, and the Test and Evaluation Command.

5. **Discussion of Results.** We discussed the results of our review with Gene Forsythe, Special Assistant for Engineering. He agreed with our conclusions. This report isn't subject to the official command-reply process.

SAAG-WER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-709

6. Thank you for the courtesies and cooperation extended to us during the review.

FOR THE AUDITOR GENERAL:

Ronald D Anderson
for KENNETH R. SHAW
Regional Auditor General

Encl

CF:
Army Basing Study Office
U.S. Army Test and Evaluation Command
SAAG-SER

Documentation of Audit Results At Test and Evaluation Activities.

Ref No.	Datacall Reference	Source	Source Adequate Y or N	Result
1	2.1.B.2	Test Resource Management System.	Y	Math errors
2	2.2.A	Expert opinion and estimate of prior tests	Y	Math errors
3	2.3.A	Approved War Plans	Y	Incorrect reporting
4	3.1.B	Installation Facilities System.	Y	Typographical error
5	3.1.C.1	Scientific Knowledge. Historic knowledge of file	Y	
6	3.1.C.5.A	DOD National Range Information Management System.	Y	
7	3.1.C.6	DOD National Range Information Management System.	Y	
8	3.1.E.1	Scientific knowledge. Historic knowledge of file	Y	
9	3.1.E.2	Agreements with land and lease holders.	Y	
10	3.1.E.3	Knowledge of testing and expert opinion.	Y	
11	3.1.E.4	White Sands Missile Range FY 95 Investment Plan	Y	
12	3.1.G.1	Installation Map with Grid Data	Y	
13	3.1.G.7	Flight Maps. Knowledge of flight paths and buffer zones.	Y	
14	E.1.H.1	Report of Vegetation conducted at White Sands Missile Range.	Y	
15	3.1.H.10	DOD National Range Information Management System.	Y	Math errors
16	3.2.B.1	Aviation Map. Measurement of facilities.	Y	
17	3.2.C.1	Expert knowledge of prior missions.	Y	
18	3.2.C.6	Universal Documentation System	Y	
19	3.3.A.2	Expert knowledge of prior mission.	Y	
20	3.3.B.1	Expert knowledge of prior mission.	Y	
21	3.4.A.1	Expert knowledge of prior mission.	Y	
22	3.4.B.1.A	Expert opinion.	Y	

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SAAG-WER (36-5e) 14 July 1994

MEMORANDUM FOR Commander, Test and Experimentation Command, ATTN: CSTE-TRM (Mr. Bill Hill), Fort Hood, TX 76544-5065

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-707

1. **Introduction.** This is the report on our review of the data your headquarters provided for the data call (Base Realignment and Closure 95 Data Call #7 - Test and Evaluation) for the DOD cross-service work group. A separate information memorandum will be issued to you on our review of data the Intelligence and Electronic Warfare Test Directorate submitted to your headquarters. The Director of Management requested the review. Results of our review at the Test and Experimentation Command will be included in our overall report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data the Army furnished DOD cross-service work groups. Our specific objectives were to determine whether data furnished was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group, DA, and major command guidance.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

To evaluate the accuracy of data furnished DOD cross-service groups, we:

- Reviewed data the Test and Experimentation Command Headquarters provided to the data call for Test

and Experimentation Command's center and two test directorates for completeness and responsiveness.

- Interviewed personnel from Test and Experimentation Command Headquarters, who acquired and reviewed the center and test directorates' responses to the data elements.

- Evaluated changes the Test and Experimentation Command Headquarters made to the center and two test directorates' responses.

- Discussed operation and control of ranges used by the Test and Experimentation Command at Fort Hood with III Corps and Fort Hood G-3 Range personnel.

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures used to respond to the cross-service group data call.

3. **Background.**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several Office of the Secretary of Defense-led study groups to evaluate opportunities for cross-service base realignment and closure actions. Those work groups are the:

- Medical Treatment Facilities and Graduate Medical Education Centers work group.

- Test and Evaluation Facilities work group.

- Laboratory Facilities work group.

- Undergraduate Pilot Training work group.

- Military Depots work group.

- Economic Impact work group.

Each of the work groups prepared a data call requiring activities to provide general information needed to assess and identify cross-service opportunities. The Chief of

SAAG-WER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-707

Staff, United States Army issued a 21 March 1994 memorandum implementing Office of the Secretary of Defense guidance and providing procedural instructions for Army data calls. Generally, each of the Army activities identified in the cross-service data calls were to furnish responses to the major commands which provided certified data to the Army Basing Study Office. The Army Basing Study Office then provided data to each of the cross-service work groups. This memorandum addresses only your command's response to the Test and Evaluation data call.

b. **Attributes.** The Test and Experimentation Command is a subordinate command of the Operational Test and Evaluation Command. The Test and Experimentation Command Headquarters at Fort Hood has one center and nine test directorates. Locations of the activities are:

Fort Hood, Texas

- Close Combat Test Directorate.
- Aviation Test Directorate.
- Engineer/Combat Support Test Directorate.
- Command, Control and Communications Test Directorate.
- Information Mission Area Test Directorate.

Fort Hunter-Liggett, California

- Experimentation Center.

Fort Bragg, North Carolina

- Airborne and Special Operations Test Directorate.

Fort Bliss, Texas

- Air Defense Artillery Test Directorate.

Fort Huachuca, Arizona

- Intelligence/Electronic Warfare Test Directorate.

Fort Sill, Oklahoma

- Fire Support Test Directorate.

SAAG-WER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-707

As a test and evaluation facility, Test and Experimentation Command activities were required to provide and provided responses for 94 data elements in the test and evaluation data call. One center and two test directorates of the Test and Experimentation Command provided data in response to Data Call #7:

- Experimentation Center, Fort Hunter-Liggett, California.
- Intelligence/Electronic Warfare Test Directorate, Fort Huachuca, Arizona.
- Air Defense Artillery Test Directorate, Fort Bliss, Texas. We reviewed the activities' responses for 23 of the data elements.

4. **Results of Review.**

a. **Accuracy of Reported Data.**

(1) We couldn't verify the accuracy of Test and Experimentation Command activities' responses because supporting documentation wasn't available at the Test and Experimentation Command Headquarters. Generally, responses to the data call appeared complete and responsive. However, at our suggestion additional data or clarification was obtained for nine data elements reviewed.

(2) In addition to review for general accuracy, the Test and Experimentation Command Headquarters reviewed data submitted by the center and two test directorates for typographical errors and to ensure that appropriate data elements were answered. Changes made by the Test and Experimentation Command to data submitted by the center and two test directorates for the data call were appropriate.

b. **Supporting Documentation.** We couldn't determine if the Test and Experimentation Command maintained sufficient supporting documentation for the data elements reviewed. Supporting documentation for data furnished by the center and two test directorates wasn't available at the Test and Experimentation Command Headquarters.

c. **Compliance With Cross-Service, DA, and Major Command Guidance.** The Test and Experimentation Command used cross-service work group, DA, and Operational Test and Evaluation Command guidance to obtain data for the elements reviewed.

SAAG-WER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-707

Guidance Test and Experimentation Command Headquarters furnished the center and test directorates concerning elements requiring responses and the scope of responses was in accordance with guidance from the cross-service, DA, and Operational Test and Evaluation Command guidance. The center and test directorates followed the guidance issued by the Test and Experimentation Command Headquarters.

At a coordination meeting held 16-18 May 1994, chaired by the Test and Evaluation Management Agency, Test and Experimentation Command's activities that should respond to the data call were identified. Exclusions of seven Test and Experimentation Command test directorates from Data Call #7 appear valid.

Four test directorates were excluded from the data call because they didn't test the functional areas (air vehicles, electronic combat, and armament/weapons) selected by the data call group. The directorates were:

- Close Combat Test Directorate whose mission is to plan, conduct, and report on operational tests of doctrine, organization, training, and materiel related to infantry, armor, cavalry and combined arms operations.

- Engineer/Combat Support Test Directorate whose mission is to plan, conduct, and report on user tests and field experiments involving doctrine, training, organization and material relating to engineer, chemical, quartermaster, logistics, ordnance, Army training, military police, medical, soldier support, and transportation operations.

- Command, Control, and Communications Test Directorate whose mission is to formulate test methodology; develop test plans; conduct tests; and report on assigned tests, demonstrations, and experiments of automated tactical command and control systems and associated communications' electronics systems.

- Information Mission Area Test Directorate whose mission is to plan, conduct, and report on user tests of doctrine, organization, training, and systems related to the information mission area.

The Aviation Test Directorate was excluded from the data call because the directorate didn't own or control aviation facilities or ranges at Fort Hood. The Directorate is authorized 52 personnel, and its mission is to plan, conduct, and report all operational user tests. At Fort Hood, aviation facilities and ranges are operated and controlled by III Corps and Fort Hood. III Corps and Fort Hood units that conduct aviation tests schedule the use of Fort Hood ranges. The Aviation Test Directorate has no control over range availability or usage at Fort Hood or at other installations. In addition, the Aviation Test Directorate didn't own aviation-unique test equipment.

Two directorates were excluded from the data call because their functional areas were Army-unique or had little potential for consolidation. The directorates were:

- Airborne and Special Operations Test Directorate whose mission is to plan, conduct, and report on user tests and field experiments involving doctrine, training, organization, and materiel relating to airborne equipment, procedures, and systems to include aerial delivery and transportation items in support of air movement in both U.S. Army and U.S. Air Force aircraft; and materiel related to special operations forces.

- Fire Support Test Directorate whose mission is to plan, conduct, and report on development tests, special studies, commercial equipment evaluations, customer tests, user tests, and field experiments involving doctrine, training, organization, and materiel relating to field artillery.

5. Discussion of Results. We discussed the results of our review with Colonel Ray Ivey, Chief of Staff, Headquarters, Test and Experimentation Command on 13 July 1994. They agreed with our conclusions and were receptive to our suggestions. This report isn't subject to the official command-reply process.

SAAG-WER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM WR 94-707

6. Thank you for the courtesies and cooperation extended to us during the review.

Ronald D Anderson
for KENNETH R. SHAW
Regional Auditor General

CF:
Army Basing Study Office
Operational Test and Evaluation Command
SAAG-SER

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SAAG-WER-FLFO (36-5e) 11 July 1994

MEMORANDUM FOR Commander, I Corps and Fort Lewis, ATTN: AFSH-CS-IR, Fort Lewis, Washington 98433-5000

SUBJECT: Review of the Army Basing Study - Phase I, Installation Assessment -- INFORMATION MEMORANDUM, WR 94-704

1. **Introduction.** This is our report on the audit of installation assessments that your command did for the 1995 Army Basing Study. The Director of Management requested we make the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. Accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review. Our review consisted of:

- Comparing DA guidance for determining the value of installation assessment attributes with the guidance and methods Fort Lewis used.
- Reviewing source data and documentation supporting the values the installation reported.
- Verifying the mathematics used to determine the reported values.

We performed our work at Fort Lewis and Yakima Training Center Washington.

SAAG-WER-FLFO (36-5e)
SUBJECT: Review of the Army Basing Study - Phase I, Installation Assessment -- INFORMATION MEMORANDUM, WR 94-704

3. **Background.**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 furnishes a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. The Office divided the study process into two phases. Under Phase I, the Army assesses the relative military value of its installations. Under Phase II, the Army identifies and evaluates alternatives for realignment and closure. This memorandum only addresses our review of your command's participation in the installation assessment process.

b. **Attributes.** Fort Lewis reported data values for 15 of the 23 attributes that will be used to assess the relative value of maneuver installations. Forces Command guidance didn't require the installation to report the remaining 8 attributes, which will be reported either by Forces Command or DA.

4. Review Results. We concluded that the data the installation reported was generally accurate and reliable for the Army to use in closure and realignment analyses. Our review didn't show any material differences for attribute values which we verified. We discuss specific differences below and present detailed results of our review for Fort Lewis in Annex A and for Yakima Training Center in Annex B.

a. **Accuracy of Reported Data.** The installation made a number of errors in calculating data values.

- **Base Operations.** The installation excluded some costs and made a number of mathematical errors in computing base operations costs for FY 93. For Fort Lewis, the installation reported $129,670,200. We verified that the total base operations costs for FY 93 were $132,421,500. The primary reason for the difference at Fort Lewis resulted from adding $360,400 instead of $3,630,410 in base operations - direct costs.

  For Yakima Training Center, the installation reported $2,849,200 and we verified $3,458,800. The primary reason for the difference in the training center's numbers was caused by command excluding $621,583 for civilian salaries in base operations - direct costs.

- **Environmental Carrying Capacity.** The installation made mathematical errors in determining the number of sites potentially eligible for listing on the National Historical Register. At Fort Lewis, command reported 102 sites. We verified that the actual number was 80 sites. At Yakima Training Center, command reported 384 sites instead of 269 sites which we verified.

- **Reserve Training.** The data available to support reported reserve training personnel and mandays was limited. Command informed us that there is no formal DA or Forces Command system for reporting reserve training.

  The Directorate of Reserve Component Support prepares weekly and monthly reports showing training days at Fort Lewis, Yakima Training Center and other training sites, based on knowledge of training at Fort Lewis and submissions from the other sites. Training data is normally based on planning documents and not on actual counts of personnel by training day.

  Yakima Training Center doesn't break out training days between annual training or inactive duty training. When preparing the reports, the Directorate categorizes the training based on the number of days, assuming that any training over 4 days is annual training.

  In our verification process, we summed numbers of personnel on active training from supporting monthly reports. We did the same thing for inactive duty training mandays.

  For Fort Lewis, the installation reported that 12,421 Reserve personnel attended annual training and 180,071 days of inactive duty training were performed during FY 92 and FY 93. We verified 12,798 personnel and 170,301 mandays during the same fiscal years. The installation reported 10,419 annual training Reserve personnel and 62,379 inactive duty training mandays in FY 91. Those numbers matched the FY 91 report. However, no supporting weekly or monthly reports were available for FY 91.

For Yakima Training Center, the installation reported that 12,486 Reserve personnel attended annual training and 99,142 days of inactive duty training were performed during FY 92 and FY 93. We verified 12,242 personnel and 111,607 mandays during the same fiscal years. The installation reported 6,954 annual training Reserve personnel and 90,411 inactive duty training mandays in FY 91. Those numbers matched the FY 91 report. As noted for Fort Lewis, no supporting weekly or monthly reports were available for FY 91.

Some differences between what we verified and what the installation reported were due to mathematical errors in adding training days. Other differences occurred because for the purpose of the data call, annual training days had to be converted to personnel strength, assuming a 14-day annual training cycle. Not all annual training was conducted on a 14-day basis. Our calculation for annual training was based on actual personnel strength and time spent on annual training.

b. **Data Sources and Methods.** In general, the installation used the appropriate data sources and methods as prescribed by DA and Forces Command.

Barracks and Family Housing, Fort Lewis. In calculating the number of unaccompanied enlisted spaces, the installation excluded a planned FY 95 construction project which added 800 spaces. According to DA and Forces Command guidance, construction projects through FY 96 were to be included in reported spaces. The installation reported 8,755 spaces; we verified 9,555 spaces.

Infrastructure. Instead of using maximum capacity, the installation estimated capacity based on usage data in some infrastructure elements. For example, for Fort Lewis, the installation estimated sewage capacity as 9.[illegible] million gallons per day. We verified that reported sewage capacity should have been 10.32 million gallons per day based on the mobilization master plan. Differences are shown by line item in the annexes.

Maneuver Acres, Fort Lewis. The installation reported 62,536 maneuver acres based on the installation

environmental baseline study. We verified 63,062 acres based on the installation RPLANS and a recent environmental impact statement. Based on DA and Forces Command guidance, the installation should have used the installation RPLANS.

c. **Completeness of Records.** Installation personnel generally had adequate documentation to support their reported data values. In particular, the Directorate of Engineering and Housing had a very good audit trail. The Directorate of Information Management would benefit from ensuring that source documents are easily accessible.

d. **Other Adjustments.** We also noted one additional issue regarding adjustments to data reported for the information mission area attribute. During the verification process, the information management office reevaluated the estimate of the Fort Lewis' outside cable plant, resulting in a decrease of 2 points. We added 10 points to the attribute value to give the installation credit for two additional communications network nodes it had initially overlooked.

5. **Discussion of Results.** We discussed the results of our review with Mr. William Gibson, Deputy Garrison Commander, and other command principals on 6 July 1994. Personnel agreed with our conclusions and said they would resubmit correct data to Forces Command. This report isn't subject to the official command-reply process.

FOR THE REGIONAL AUDITOR GENERAL:

Encls

for Karen L. Daly
RONALD G. ANDERSON
Associate Regional Auditor General

DATA ATTRIBUTES REVIEWED
FORT LEWIS, WASHINGTON

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
ARRACKS AND FAMILY HOUSING (PERMANENT)			
Family Housing	Units	17,612	17,612
Unaccompanied Officer	Spaces	81	81
Unaccompanied Enlisted	Spaces	8,755	9,555[1]
ASE OPERATIONS COSTS (ARMY)			
BASOPS - Direct	Thousands of Dollars	$75,702.8	$78,462.3[2]
BASOPS - Reimbursable	Thousands of Dollars	$11,772.7	$11,772.7
Real Property Maintenance - Direct	Thousands of Dollars	$15,545.6	$15,535.5[3]
Real Property Maintenance - Reimbursable	Thousands of Dollars	$7,588.7	$7,589.7[4]
Environmental Programs - Direct	Thousands of Dollars	$10,575.1	$10,576.0[5]
Environmental Programs - Reimbursable	Thousands of Dollars	$1,011.3	$1,011.3
Audio Visual - Direct	Thousands of Dollars	$444.2	$444.2
Audio Visual - Reimbursable	Thousands of Dollars	$4.3	$4.3

ANNEX A

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Base Commo - Direct	Thousands of Dollars	$2,695.5	$2,695.5
Base Commo - Reimbursable	Thousands of Dollars	$796.7	$796.7
Family Programs - Direct	Thousands of Dollars	$3,533.3	$3,533.3
Family Programs - Reimbursable	Thousands of Dollars	0	0
ASE OPERATIONS COSTS (DOD)			
Real Property Maintenance	Thousands of Dollars	$5,897.6	$5,897.6
UILDABLE ACRES	Acres	9,913	9,913
EPLOYMENT NETWORK			
To Railhead	Miles	0	0
To Airport	Miles	3	3
To Seaport	Miles	17	17
To Highway	Miles	0	0
NVIRONMENTAL CARRYING CAPACITY			
Archaeology Sites and Historical Buildings			
- Number On National Register	Museum	1	1
- Number of Sites Eligible	Sites	102	80[6]
Endangered Species - Bald Eagle; Spotted Owl	Species	2	2

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Wetlands	Acres	4,500	4,500
Air Quality Not In Attainment - Acres Not in Ozone Attainment - Acres Not in Carbon Monoxide Attainment	Acres	 6,900 1,500	 6,900 1,500
Water Quality Parameters Exceeded	Incidents	0	0
Noise Quality Parameters Exceeded	Acres	73	73
Contaminated Sites - Installation Restoration Program Sites - National Priority List Sites	Sites	 16 2	 16 2
AMILY HOUSING COST PER DWELLING UNIT			
FY 91 Direct 1900 Account Funds	Unit	$5,000	$5,000
FY 92 Direct 1900 Account Funds	Unit	$5,000	$5,000
FY 93 Direct 1900 Account Funds	Unit	$5,000	$5,000
IPACT AREA	Acres	12,511	12,511
NFORMATION MISSION AREA	Points	1,225	1,233[7]
NFRASTRUCTURE			
Water Capacity	Million Gallons/Day	19.1	19.1
Sewage Treatment Capacity	Million Gallons/Day	9.0	10.32[8]
Electrical Power Capacity	Million Kilowatt Hrs	80 MVA	80 MVA

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Land Fill	Dollars per Short Ton	$36.00	$31.00[9]
ANEUVER ACRES	Acres	62,536	63,062[10]
ECHANIZED MANEUVER ACRES	Acres	6,000	6,000
OBILIZATION CAPACITY			
Enlisted	Personnel	39,000	39,000
Officers	Personnel	1,200	1,200
ANGES			
Ranges	Number	67	67
Multi-purpose Range Complex	Number	0	0
Remote Engagement Target System Equipped M-16 Firing Points	Number	16	16
ESERVE TRAINING			
FY 91 Annual Training	Personnel	10,419	10,419[11]
FY 92 Annual Training	Personnel	6,562	6,316[12]
FY 93 Annual Training	Personnel	5,859	6,482
FY 91 Inactive Duty Training	Mandays	62,379	62,379
FY 92 Inactive Duty Training	Mandays	83,724	75,768
FY 93 Inactive Duty Training	Mandays	96,348	94,533

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
)RK SPACE			
Aviation Maintenance	Thousand Square Feet	425.3	425.3
Vehicle Maintenance	Thousand Square Feet	1,520.8	1,520.8
Unit Operations Buildings	Thousand Square Feet	10.8	10.8
Operations	Thousand Square Feet	12.1	12.1
Administration	Thousand Square Feet	1,961.7	1,961.7

The verification value includes 800 additional spaces for FY 95 MCA construction.

The installation value contains mathematical errors.

The installation value contains a mathematical error.

The installation value contains a mathematical error.

The installation value contains a mathematical error.

The installation value contains a mathematical error.

The verification value includes adjustments for network nodes and percentage of fill outside cable.

The installation value was based on a usage estimate rather than the maximum capacity the mobilization master plan.

The installation value ($36.00) was an estimate based on historical operating costs and ts of new construction. On 6 July 1994, the installation computed the new value of .00 based on opening and closing landfill areas plus operating costs. We verified the .00 value.

The verification value is based on the installation RPLANS and the environmental act statement. The installation number was only 526 acres less and came from the stallation environmental baseline study although the installation stated in its mission that the value came from the environmental impact statement.

This note applies to annual and inactive duty training for FY 91. The only source a available for FY 91 was for the last week of the year which showed cumulative yearend als. We couldn't verify the accuracy of the cumulative amounts as we did for FY 92 and 93.

This note applies to FY 92 and FY 93 annual training and inactive duty training. Some fferences were because of mathematical errors in adding annual training and inactive aining days. Other differences occurred because annual training days were required to converted to personnel strength, assuming a 14-day annual training cycle. Not all nual training was conducted on a 14-day basis.

DATA ATTRIBUTES REVIEWED
YAKIMA TRAINING CENTER, WASHINGTON

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
ARRACKS AND FAMILY HOUSING (PERMANENT)			
Family Housing	Units	0	0
Unaccompanied Officer	Spaces	0	0
Unaccompanied Enlisted	Spaces	0	0
ASE OPERATIONS COSTS (ARMY)			
BASOPS - Direct	Thousands of Dollars	$1,864.0	$2,474.5[1]
BASOPS - Reimbursable	Thousands of Dollars	0	0
Real Property Maintenance - Direct	Thousands of Dollars	$298.6	$298.6
Real Property Maintenance - Reimbursable	Thousands of Dollars	0	0
Environmental Programs - Direct	Thousands of Dollars	$479.8	$478.9[2]
Environmental Programs - Reimbursable	Thousands of Dollars	0	0
Audio Visual - Direct	Thousands of Dollars	0	0
Audio Visual - Reimbursable	Thousands of Dollars	0	0

ANNEX B

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Base Commo - Direct	Thousands of Dollars	$206.8	$206.8
Base Commo - Reimbursable	Thousands of Dollars	0	0
Family Programs - Direct	Thousands of Dollars	0	0
Family Programs - Reimbursable	Thousands of Dollars	0	0
BASE OPERATIONS COSTS (DOD)			
Real Property Maintenance	Thousands of Dollars	$880.1	$880.1
BUILDABLE ACRES	Acres	834	834
DEPLOYMENT NETWORK			
To Railhead	Miles	2	2
To Airport	Miles	12	12
To Seaport	Miles	149	149
To Highway	Miles	1	1
ENVIRONMENTAL CARRYING CAPACITY			
Archaeology Sites and Historical Buildings			
- Number On National Register	Sites	1	1
- Number of Sites Eligible	Sites	384	269[3]
Endangered Species - Bald Eagle	Species	1	1

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Wetlands	Acres	0	0
Air Quality Not In Attainment - Particulate Matter-10	Acres	1,000	1,000
Water Quality Parameters Exceeded	Incidents	0	0
Noise Quality Parameters Exceeded	Acres	0	0
Contaminated Sites - Installation Restoration Program Sites - National Priority List Sites	Sites	 1 0	 1 0
AMILY HOUSING COST PER DWELLING UNIT			
FY 91 Direct 1900 Account Funds	Unit	0	0
FY 92 Direct 1900 Account Funds	Unit	0	0
FY 93 Direct 1900 Account Funds	Unit	0	0
MPACT AREA	Acres	21,040	21,040
NFORMATION MISSION AREA	Points	40	40
NFRASTRUCTURE			
Water Capacity	Million Gallons/Day	2.085	2.182[4]
Sewage Treatment Capacity	Million Gallons/Day	0.72	0.72
Electrical Power Capacity	Million Kilowatt Hrs	15 MKWH	9.36 MVA[5]
Land Fill	Dollars per Short Ton	$34.00	$34.00

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
MANEUVER ACRES	Acres	253,956	253,956
MECHANIZED MANEUVER ACRES	Acres	197,172	197,172
MOBILIZATION CAPACITY			
Enlisted	Personnel	1,716	1,716
Officers	Personnel	198	198
RANGES			
Ranges	Number	23	23
Multi-purpose Range Complex	Number	1	1
Remote Engagement Target System Equipped M-16 Firing Points	Number	0	0
RESERVE TRAINING			
FY 91 Annual Training	Personnel	6,954	6,954[6]
FY 92 Annual Training	Personnel	5,022	4,518[7]
FY 93 Annual Training	Personnel	7,464	7,724
FY 91 Inactive Duty Training	Mandays	90,411	90,411
FY 92 Inactive Duty Training	Mandays	49,353	56,005
FY 93 Inactive Duty Training	Mandays	49,789	55,602
WORK SPACE			
Aviation Maintenance	Thousand Square Feet	0	0

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Vehicle Maintenance	Thousand Square Feet	50.3	50.3
Unit Operations Buildings	Thousand Square Feet	0	0
Operations	Thousand Square Feet	0	0
Administration	Thousand Square Feet	8.1	8.1

1. The installation value excludes about $621,000 in civilian pay and includes a mathematical error.

2. The installation value contains a mathematical error.

3. The installation value contains a mathematical error.

4. The installation value of 2.085 million gallons per day came from the installation environmental baseline study. Our verification of 2.182 million gallons per day came from the draft master plan and local data base.

5. The installation value was based on total usage for one year. The verification value is based on maximum capacity shown in the draft master plan study.

6. This note applies to annual and inactive duty training for FY 91. The only source data available for FY 91 was for the last week of the year which showed cumulative yearend totals. We couldn't verify the accuracy of the cumulative amounts as we did for FY 92 and 93.

Document Separator

SAAG-WER-FLFO (36-5e) 10 August 1994

MEMORANDUM FOR Commander, I Corps and Fort Lewis, ATTN: AFSH-CS-IR, Fort Lewis, Washington 98433-5000

SUBJECT: Review of the Army Basing Study - Phase I, Installation Assessment -- INFORMATION MEMORANDUM, WR 94-704

1. **Introduction.** This is our report on the audit of installation assessments that your command did for the 1995 Army Basing Study. The Director of Management requested we make the review. We will include data in this report in a summary report to higher levels of management.

2. **Objectives and Scope.** The overall objective of our review was to evaluate the accuracy of data used for assessing installation values. Specific objectives were to evaluate the:

- Accuracy of reported data.
- Appropriateness of data sources and methods used to obtain data values.
- Completeness of records maintained.

We made the review during June and July 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. Accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the field work and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review. Our review consisted of:

- Comparing DA guidance for determining the value of installation assessment attributes with the guidance and methods Fort Lewis used.
- Reviewing source data and documentation supporting the values the installation reported.
- Verifying the mathematics used to determine the reported values.

We performed our work at Fort Lewis and Yakima Training Center, Washington.

3. **Background.**

a. **Base Closure.** The Defense Base Closure and Realignment Act of 1990 furnishes a fair process that will result in the timely closure and realignment of military installations. The Army established the Basing Study Office to manage the study process. The Office divided the study process into two phases. Under Phase I, the Army assesses the relative military value of its installations. Under Phase II, the Army identifies and evaluates alternatives for realignment and closure. This memorandum only addresses our review of your command's participation in the installation assessment process.

b. **Attributes.** Fort Lewis reported data values for 15 of the 23 attributes that will be used to assess the relative value of maneuver installations. Forces Command guidance didn't require the installation to report the remaining 8 attributes, which will be reported either by Forces Command or DA.

4. **Review Results.** We concluded that the data the installation reported was generally accurate and reliable for the Army to use in closure and realignment analyses. Our review didn't show any material differences for attribute values which we verified. We discuss specific differences below and present detailed results of our review for Fort Lewis in Annex A and for Yakima Training Center in Annex B.

a. **Accuracy of Reported Data.** The installation made a number of errors in calculating data values.

- **Base Operations.** The installation excluded some costs and made a number of mathematical errors in computing base operations costs for FY 93. For Fort Lewis, the installation reported $129,670,200. We verified that the total base operations costs for FY 93 were $132,421,500. The primary reason for the difference at Fort Lewis resulted from adding $360,400 instead of $3,630,410 in base operations - direct costs.

  For Yakima Training Center, the installation reported $2,849,200 and we verified $3,458,800. The primary reason for the difference in the training center's numbers was caused by command excluding $621,583 for civilian salaries in base operations - direct costs.

- **Environmental Carrying Capacity.** The installation made mathematical errors in determining the number of sites potentially eligible for listing on the National Historical Register. At Fort Lewis, command reported 102 sites. We verified that the actual number was 80 sites. At Yakima Training Center, command reported 384 sites instead of 269 sites which we verified.

- **Reserve Training.** The data available to support reported reserve training personnel and mandays was limited. Command informed us that there is no formal DA or Forces Command system for reporting reserve training.

  The Directorate of Reserve Component Support prepares weekly and monthly reports showing training days at Fort Lewis, Yakima Training Center and other training sites, based on knowledge of training at Fort Lewis and submissions from the other sites. Training data is normally based on planning documents and not on actual counts of personnel by training day.

  Yakima Training Center doesn't break out training days between annual training or inactive duty training. When preparing the reports, the Directorate categorizes the training based on the number of days, assuming that any training over 4 days is annual training.

  In our verification process, we summed numbers of personnel on active training from supporting monthly reports. We did the same thing for inactive duty training mandays.

  For Fort Lewis, the installation reported that 12,421 Reserve personnel attended annual training and 180,072 days of inactive duty training were performed during FY 92 and FY 93. We verified 12,798 personnel and 170,301 mandays during the same fiscal years. The installation reported 10,419 annual training Reserve personnel and 62,379 inactive duty training mandays in FY 91. Those numbers matched the FY 91 report. However, no supporting weekly or monthly reports were available for FY 91.

For Yakima Training Center, the installation reported that 12,486 Reserve personnel attended annual training and 99,142 days of inactive duty training were performed during FY 92 and FY 93. We verified 12,242 personnel and 111,607 mandays during the same fiscal years. The installation reported 6,954 annual training Reserve personnel and 90,411 inactive duty training mandays in FY 91. Those numbers matched the FY 91 report. As noted for Fort Lewis, no supporting weekly or monthly reports were available for FY 91.

Some differences between what we verified and what the installation reported were due to mathematical errors in adding training days. Other differences occurred because for the purpose of the data call, annual training days had to be converted to personnel strength, assuming a 14-day annual training cycle. Not all annual training was conducted on a 14-day basis. Our calculation for annual training was based on actual personnel strength and time spent on annual training.

b. **Data Sources and Methods.** In general, the installation used the appropriate data sources and methods as prescribed by DA and Forces Command.

Barracks and Family Housing, Fort Lewis. In calculating the number of unaccompanied enlisted spaces, the installation excluded a planned FY 95 construction project which added 800 spaces. According to DA and Forces Command guidance, construction projects through FY 96 were to be included in reported spaces. The installation reported 8,755 spaces; we verified 9,555 spaces.

Infrastructure. Instead of using maximum capacity, the installation estimated capacity based on usage data in some infrastructure elements. For example, for Fort Lewis, the installation estimated sewage capacity as 9.0 million gallons per day. We verified that reported sewage capacity should have been 10.32 million gallons per day based on the mobilization master plan. Differences are shown by line item in the annexes.

Maneuver Acres, Fort Lewis. The installation reported 62,536 maneuver acres based on the installation

environmental baseline study. We verified 63,062 acres based on the installation RPLANS and a recent environmental impact statement. Based on DA and Forces Command guidance, the installation should have used the installation RPLANS.

c. **Completeness of Records.** Installation personnel generally had adequate documentation to support their reported data values. In particular, the Directorate of Engineering and Housing had a very good audit trail. The Directorate of Information Management would benefit from ensuring that source documents are easily accessible.

d. **Other Adjustments.** We also noted one additional issue regarding adjustments to data reported for the information mission area attribute. During the verification process, the information management office reevaluated the estimate of the Fort Lewis' outside cable plant, resulting in a decrease of 2 points. We added 10 points to the attribute value to give the installation credit for two additional communications network nodes it had initially overlooked.

5. **Discussion of Results.** We discussed the results of our review with Mr. William Gibson, Deputy Garrison Commander, and other command principals on 6 July 1994. Personnel agreed with our conclusions and said they would resubmit correct data to Forces Command. This report isn't subject to the official command-reply process.

FOR THE REGIONAL AUDITOR GENERAL:

Encls

RONALD G. ANDERSON
Associate Regional Auditor
General

DATA ATTRIBUTES REVIEWED
FORT LEWIS, WASHINGTON

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
BARRACKS AND FAMILY HOUSING (PERMANENT)			
Family Housing	Units	17,612	17,612
Unaccompanied Officer	Spaces	81	81
Unaccompanied Enlisted	Spaces	8,755	9,555[1]
BASE OPERATIONS COSTS (ARMY)			
BASOPS - Direct	Thousands of Dollars	$75,702.8	$78,462.3[2]
BASOPS - Reimbursable	Thousands of Dollars	$11,772.7	$11,772.7
Real Property Maintenance - Direct	Thousands of Dollars	$15,545.6	$15,535.5[3]
Real Property Maintenance - Reimbursable	Thousands of Dollars	$7,588.7	$7,589.7[4]
Environmental Programs - Direct	Thousands of Dollars	$10,575.1	$10,576.0[5]
Environmental Programs - Reimbursable	Thousands of Dollars	$1,011.3	$1,011.3
Audio Visual - Direct	Thousands of Dollars	$444.2	$444.2

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Audio Visual - Reimbursable	Thousands of Dollars	$4.3	$4.3
Base Commo - Direct	Thousands of Dollars	$2,695.5	$2,695.5
Base Commo - Reimbursable	Thousands of Dollars	$796.7	$796.7
Family Programs - Direct	Thousands of Dollars	$3,533.3	$3,533.3
Family Programs - Reimbursable	Thousands of Dollars	0	0
BASE OPERATIONS COSTS (DOD)			
Real Property Maintenance	Thousands of Dollars	$5,897.6	$5,897.6
BUILDABLE ACRES	Acres	9,913	9,913
DEPLOYMENT NETWORK			
To Railhead	Miles	0	0
To Airport	Miles	3	3
To Seaport	Miles	17	17
To Highway	Miles	0	0
ENVIRONMENTAL CARRYING CAPACITY			
Archaeology Sites and Historical Buildings			
- Number On National Register	Museum	1	1

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
- Number of Sites Eligible	Sites	102	80[6]
Endangered Species - Bald Eagle; Spotted Owl	Species	2	2
Wetlands	Acres	4,500	4,500
Air Quality Not In Attainment - Acres Not in Ozone Attainment - Acres Not in Carbon Monoxide Attainment	Acres	 6,900 1,500	 6,900 1,500
Water Quality Parameters Exceeded	Incidents	0	0
Noise Quality Parameters Exceeded	Acres	73	73
Contaminated Sites - Installation Restoration Program Sites - National Priority List Sites	Sites	 16 2	 16 2
FAMILY HOUSING COST PER DWELLING UNIT			
FY 91 Direct 1900 Account Funds	Unit	$5,000	$5,000
FY 92 Direct 1900 Account Funds	Unit	$5,000	$5,000
FY 93 Direct 1900 Account Funds	Unit	$5,000	$5,000
IMPACT AREA	Acres	12,511	12,511
INFORMATION MISSION AREA	Points	1,225	1,233[7]
INFRASTRUCTURE			
Water Capacity	Million Gallons/Day	19.1	19.1

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
MANEUVER ACRES	Acres	253,956	253,956
MECHANIZED MANEUVER ACRES	Acres	197,172	197,172
MOBILIZATION CAPACITY			
Enlisted	Personnel	1,716	1,716
Officers	Personnel	198	198
RANGES			
Ranges	Number	23	23
Multi-purpose Range Complex	Number	1	1
Remote Engagement Target System Equipped M-16 Firing Points	Number	0	0
RESERVE TRAINING			
FY 91 Annual Training	Personnel	6,954	6,954[6]
FY 92 Annual Training	Personnel	5,022	4,518[7]
FY 93 Annual Training	Personnel	7,464	7,724
FY 91 Inactive Duty Training	Mandays	90,411	90,411
FY 92 Inactive Duty Training	Mandays	49,353	56,005
FY 93 Inactive Duty Training	Mandays	49,789	55,602
WORK SPACE			
Aviation Maintenance	Thousand Square Feet	0	0

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Vehicle Maintenance	Thousand Square Feet	50.3	50.3
Unit Operations Buildings	Thousand Square Feet	0	0
Operations	Thousand Square Feet	0	0
Administration	Thousand Square Feet	8.1	8.1

1. The installation value excludes $621,583.66 in civilian pay and includes a mathematical error.

2. The installation value contains a mathematical error.

3. The installation value contains a mathematical error.

4. The installation value of 2.085 million gallons per day came from the installation environmental baseline study. Our verification of 2.182 million gallons per day came from the draft master plan and local data base.

5. The installation value was based on total usage for one year. The verification value is based on maximum capacity shown in the draft master plan study.

6. This note applies to annual and inactive duty training for FY 91. The only source data available for FY 91 was for the last week of the year which showed cumulative yearend totals. We couldn't verify the accuracy of the cumulative amounts as we did for FY 92 and 93.

7. This note applies to FY 92 and FY 93 annual training and inactive duty training. Some differences were because of mathematical errors in adding annual training and inactive training days. Other differences occurred because annual training days were required to be converted to personnel strength, assuming a 14-day annual training cycle. Not all annual training was conducted on a 14-day basis.

DATA ATTRIBUTES REVIEWED
YAKIMA TRAINING CENTER, WASHINGTON

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
BARRACKS AND FAMILY HOUSING (PERMANENT)			
Family Housing	Units	0	0
Unaccompanied Officer	Spaces	0	0
Unaccompanied Enlisted	Spaces	0	0
BASE OPERATIONS COSTS (ARMY)			
BASOPS - Direct	Thousands of Dollars	$1,864.0	$2,474.5[1]
BASOPS - Reimbursable	Thousands of Dollars	0	0
Real Property Maintenance - Direct	Thousands of Dollars	$298.6	$298.6
Real Property Maintenance - Reimbursable	Thousands of Dollars	0	0
Environmental Programs - Direct	Thousands of Dollars	$479.8	$478.9[2]
Environmental Programs - Reimbursable	Thousands of Dollars	0	0
Audio Visual - Direct	Thousands of Dollars	0	0
Audio Visual - Reimbursable	Thousands of Dollars	0	0

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Base Commo - Direct	Thousands of Dollars	$206.8	$206.8
Base Commo - Reimbursable	Thousands of Dollars	0	0
Family Programs - Direct	Thousands of Dollars	0	0
Family Programs - Reimbursable	Thousands of Dollars	0	0
BASE OPERATIONS COSTS (DOD)			
Real Property Maintenance	Thousands of Dollars	$880.1	$880.1
BUILDABLE ACRES	Acres	834	834
DEPLOYMENT NETWORK			
To Railhead	Miles	2	2
To Airport	Miles	12	12
To Seaport	Miles	149	149
To Highway	Miles	1	1
ENVIRONMENTAL CARRYING CAPACITY			
Archaeology Sites and Historical Buildings			
- Number On National Register	Sites	1	1
- Number of Sites Eligible	Sites	384	269[3]
Endangered Species - Bald Eagle	Species	1	1

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Wetlands	Acres	0	0
Air Quality Not In Attainment - Particulate Matter-10	Acres	1,000	1,000
Water Quality Parameters Exceeded	Incidents	0	0
Noise Quality Parameters Exceeded	Acres	0	0
Contaminated Sites - Installation Restoration Program Sites - National Priority List Sites	Sites	 1 0	 1 0
FAMILY HOUSING COST PER DWELLING UNIT			
FY 91 Direct 1900 Account Funds	Unit	0	0
FY 92 Direct 1900 Account Funds	Unit	0	0
FY 93 Direct 1900 Account Funds	Unit	0	0
IMPACT AREA	Acres	21,040	21,040
INFORMATION MISSION AREA	Points	40	40
INFRASTRUCTURE			
Water Capacity	Million Gallons/Day	2.085	2.182[4]
Sewage Treatment Capacity	Million Gallons/Day	0.72	0.72
Electrical Power Capacity	Million Kilowatt Hrs	15 MKWH	9.36 MVA[5]
Land Fill	Dollars per Short Ton	$34.00	$34.00

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
Sewage Treatment Capacity	Million Gallons/Day	9.0	10.32[8]
Electrical Power Capacity	Million Kilowatt Hrs	80 MVA	80 MVA
Land Fill	Dollars per Short Ton	$36.00	$31.00[9]
MANEUVER ACRES	Acres	62,536	63,062[10]
MECHANIZED MANEUVER ACRES	Acres	6,000	6,000
MOBILIZATION CAPACITY			
Enlisted	Personnel	39,000	39,000
Officers	Personnel	1,200	1,200
RANGES			
Ranges	Number	67	67
Multi-purpose Range Complex	Number	0	0
Remote Engagement Target System Equipped M-16 Firing Points	Number	16	16
RESERVE TRAINING			
FY 91 Annual Training	Personnel	10,419	10,419[11]
FY 92 Annual Training	Personnel	6,562	6,316[12]
FY 93 Annual Training	Personnel	5,859	6,482
FY 91 Inactive Duty Training	Mandays	62,379	62,379

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
FY 92 Inactive Duty Training	Mandays	83,724	75,768
FY 93 Inactive Duty Training	Mandays	96,348	94,533

ATTRIBUTE	UNIT OF MEASURE	REPORTED BY INSTALLATION	VERIFIED BY USAAA
WORK SPACE			
Aviation Maintenance	Thousand Square Feet	425.3	425.3
Vehicle Maintenance	Thousand Square Feet	1,520.8	1,520.8
Unit Operations Buildings	Thousand Square Feet	10.8	10.8
Operations	Thousand Square Feet	12.1	12.1
Administration	Thousand Square Feet	1,961.7	1,961.7

1. The verification value includes 800 additional spaces for FY 95 MCA construction.

2. The installation value contains several mathematical errors.

3. The installation value contains a mathematical error.

4. The installation value contains a mathematical error.

5. The installation value contains a mathematical error.

6. The installation value contains a mathematical error.

7. The verification value includes adjustments for network nodes and percentage of fill of outside cable.

8. The installation value was based on a usage estimate rather than the maximum capacity in the mobilization master plan.

9. The installation value ($36.00) was an estimate based on historical operating costs and costs of new construction. On 6 July 1994, the installation computed the new value of $31.00 based on opening and closing landfill areas plus operating costs. We verified the $31.00 value.

10. The verification value is based on the installation RPLANS and the environmental impact statement. The installation number was only 526 acres less and came from the installation environmental baseline study although the installation stated in its submission that the value came from the environmental impact statement.

11. This note applies to annual and inactive duty training for FY 91. The only source data available for FY 91 was for the last week of the year which showed cumulative yearend totals. We couldn't verify the accuracy of the cumulative amounts as we did for FY 92 and FY 93.

12. This note applies to FY 92 and FY 93 annual training and inactive duty training. Some differences were because of mathematical errors in adding annual training and inactive training days. Other differences occurred because annual training days were required to be converted to personnel strength, assuming a 14-day annual training cycle. Not all annual training was conducted on a 14-day basis.

Document Separator

DEPARTMENT OF THE ARMY
SOUTHEASTERN REGION, U.S. ARMY AUDIT AGENCY
7526 CONNELLEY DRIVE, SUITE J
HANOVER, MARYLAND 21076-1663

REPLY TO
ATTENTION OF:

SAAG-SER

1 February 1995

MEMORANDUM FOR Director of Management

SUBJECT: Review of Headquarters Real Property Planning and Analysis System for the 1995 Army Basing Study, INFORMATION MEMORANDUM SR 95-757

1. This is the report on our review of how the 1995 Army Basing Study plans to use data from the Headquarters Real Property Planning and Analysis System. You requested that we furnish audit support for the 1995 Base Realignment and Closure process. This report doesn't contain suggestions for corrective action.

2. The 1995 Army Basing Study planned to use, and is using, data from the system properly. The basing study relies on the system's data only when external sources have confirmed the data. The system is appropriate for DA-level planning, and is a good tool for the basing study to use in its preliminary reviews. However, inherent limitations in the system preclude the basing study from relying on system data to meet the "accurate and complete" requirement for information used in the base realignment and closure process.

3. We discussed the results of our review with key personnel in the Army Basing Study Office and the Office of the Assistant Chief of Staff for Installation Management. They agreed with our facts and conclusions. This report isn't subject to the official command-reply process. However, we will include these results in an overall summary report on the 1995 process.

4. Please contact Mr. John M. Williams at (703) 355-3034 if you have questions about this report. Thank you for the courtesies and cooperation extended to us during the review.

for Robert L. Emmons

STEPHEN E. KEEFER
Regional Auditor General

Encl

CF:
Director, Army Basing Study
Assistant Chief of Staff for Installation Management

HEADQUARTERS REAL PROPERTY PLANNING AND ANALYSIS SYSTEM FOR THE 1995 ARMY BASING STUDY

WHAT WE REVIEWED

From January to December 1994, we reviewed the 1995 Army Basing Study's planned use of data from the Headquarters Real Property Planning and Analysis System. This review was part of our audit support to the 1995 Base Realignment and Closure process. We will include these results in a summary report on the overall process.

We made the review, in most material respects, in accordance with generally accepted government auditing standards. We didn't follow certain aspects of the fieldwork and reporting standards. We didn't evaluate the system's programming, and we didn't review controls for the external databases that the system integrates. In our opinion, however, not following these standards had no material effect on the results of our review.

BACKGROUND

The Headquarters Real Property Planning and Analysis System is a software program for analyzing facility assets and space allowances. The system gives DA and major commands an automated tool to support facilities planning and programming decisions. It joins data from several DA automated systems. This gives planners a capability to calculate peacetime facility space allowances and compare them with real property assets for a variety of facility types. Primarily, planners use the system to validate construction programs, forecast maintenance and revitalization programs, and evaluate stationing proposals. The attachment shows a simplified flowchart of the system's major input systems and output reports.

The Office of the Assistant Chief of Staff for Installation Management is the proponent of the system. Before the office's establishment, the Office of the Assistant Chief of Engineers was the proponent.

Army basing studies for the base realignment and closure process also use data the system generates. System data is a significant factor in two major analyses that the basing study uses.

- **Facilities Capacity Analyses.** These analyses identify excesses and shortages of major facilities categories

at a given installation. The basing study uses the system to compare space allowances with real property assets. The Assistant Chief of Staff for Installation Management prepares these analyses for the basing study. Basing study analysts mainly use these analyses in identifying potential gaining installations.

- **Cost of Base Realignment Actions Model.** This is a DOD standard model for cost analyses of realignment and closure recommendations. The basing study uses model results to evaluate the financial feasibility and affordability of each recommendation. Data from the system affects several categories of savings and costs --from maintenance cost avoidance at closing installations to construction costs at gaining installations.

OBJECTIVE AND CONCLUSION

We established one objective for this review. That objective and our conclusion follow.

Objective: To evaluate the planned use of Headquarters Real Property Planning and Analysis System data in the 1995 Army Basing Study.

Conclusion: The 1995 Army Basing Study planned to use system data appropriately. Basing study analysts will use system data as an indicator, or starting point, for further analyses. The basing study won't use system data without other evidence to confirm the data's accuracy.

We agree with this approach because the system, in and of itself, wasn't designed or intended to meet the basing study's needs for "accurate and complete" information that the base closure legislation requires.

System Design. The system was designed to calculate space allowances, not requirements for all types of facilities. The system uses space algorithms based on validated usage, planning criteria, or actual assets to calculate allowances. Currently, it uses 196 algorithms.

The system's records indicated that 65 of the 196 algorithms had been statistically validated. Another 40 algorithms were accepted for use, but hadn't been statistically validated. The remaining 91 algorithms were for facility types that don't lend themselves to algorithms. These facilities were specific to an individual site, such as roads and utility lines, or a

specific activity, such as research and test facilities. In these cases, the system data showed that allowances equalled assets at a given installation.

Basing Study Focus. The basing study addresses changes in requirements at losing and gaining installations. Facilities requirements at gaining installations, for example, are a significant element in the cost model. Typically, facilities requirements are a major factor in determining if a given recommendation is financially feasible and affordable.

Thus, basing study analysts needed additional information from that available from the system to accurately establish requirements.

The basing study hadn't documented the planned use of system data for the 1995 process. However, the planned use was consistent with statements basing study and installation management personnel made to us during interviews. It was also consistent with:

- **How Previous Basing Studies Used System Data**. Basing study analysts in 1993 had personnel outside the basing study confirm data the analysts used in the cost model. These outside personnel were from what is now the Office of the Assistant Chief of Staff for Installation Management. For the 1993 process, they confirmed data they furnished the basing study analysts by using other information from major commands and installations, and from personal experience. The same personnel are involved in the 1995 process and have become even more adept at analyzing and interpreting the system's data.

  We reviewed facilities data in eight facilities categories in the cost of base realignment action model for six of the nine recommendations the Army made in the 1993 base closure process. The confirmed data agreed with the system data for only three of the eight facilities categories for only one of the six recommendations. Confirmed data didn't agree with the system data in the remaining five categories for that recommendation and all eight categories for the other five recommendations. These results showed that independent confirmation and adjustment of system-generated data were necessary in the basing study process.

- **Standard Facilities Analysis Assumptions**. Similar to the 1993 process, the Assistant Chief of Staff for Installation Management furnished the 1995 Army Basing Study with standard facilities analysis assumptions in September 1994. The

assumptions described facilities planning policies, identified 11 mission-essential facilities categories that the Army would build at gaining installations, and addressed limitations in the system's data for those category codes.

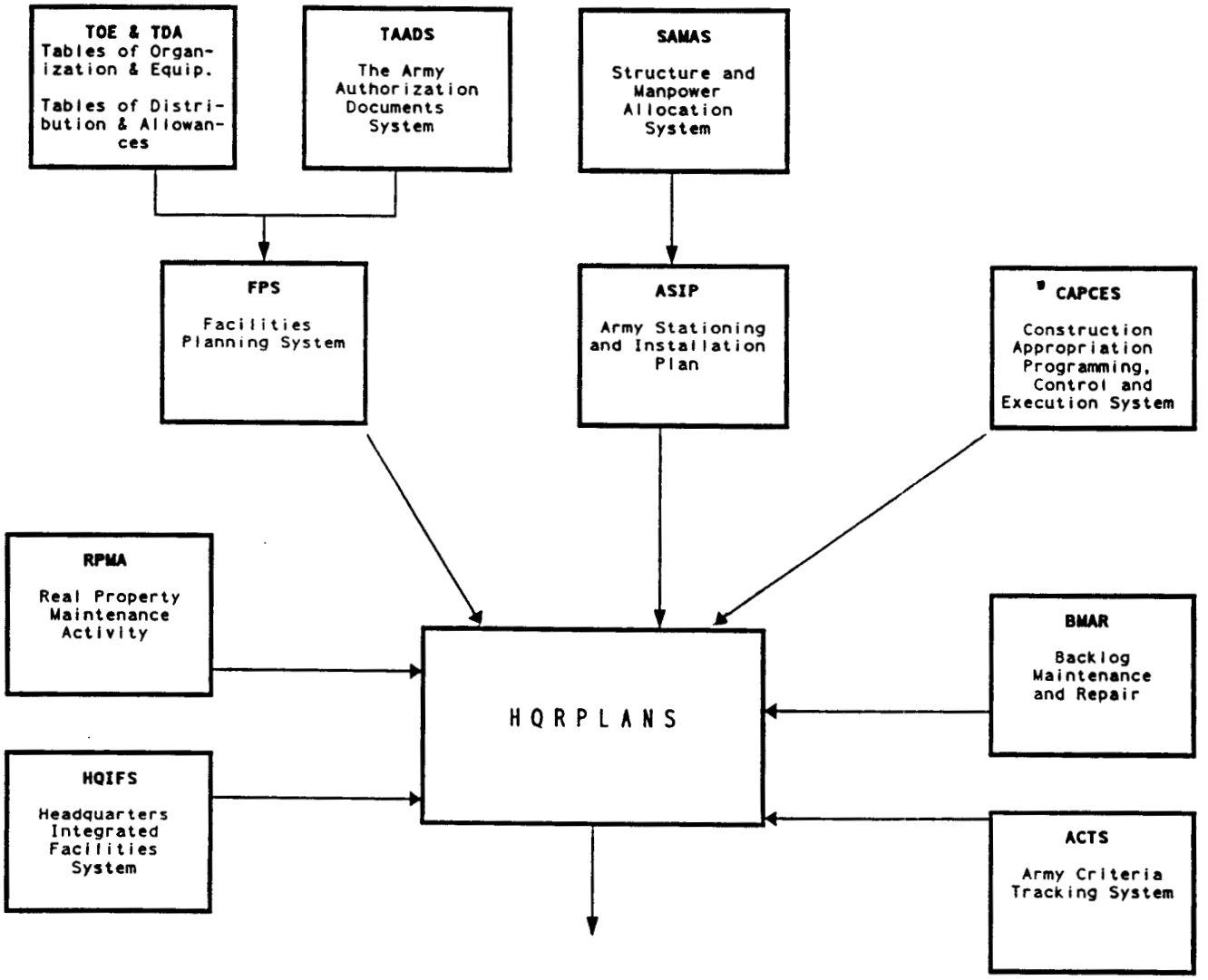
The assumptions cautioned that some of the excess capacity the system calculates may not be available or usable. This is partly due to gross-to-net-square-footage relationships that vary across facility type and year built. Also, changes in allowances and designs result in buildings that are larger than allowed today, but too small to reuse the excess. The assumptions identified specific limitations for bachelor and family housing, administrative space for large organizations, and research, development, test and evaluation facilities.

System Purpose. The system is a good tool for its intended purpose of supporting DA planning and programming decisions. The Assistant Chief of Staff for Installation Management and the system's previous proponent have emphasized and reported much progress on improving the accuracy and reliability of data in the DA systems that the system integrates.

Also, the system has some good oversight procedures. A configuration control board meets regularly to monitor the system and approve system enhancements. And the control board established the Facilities Allowance and Requirements Analysis process to give installation managers a vehicle for furnishing feedback on space allowance criteria and installation-unique space situations.

Attachment

HEADQUARTERS REAL PROPERTY PLANNING AND ANALYSIS SYSTEM (HQRPLANS) MAJOR INPUTS AND OUTPUTS FLOWCHART



Reports Generated by the System

1. Real Property Summary
2. Tabulation of Facilities
3. Facility Buyout Analysis
4. Construction Programs
5. ASIP Troop List
6. Stationing Executions
7. Facility Revitalization Analysis
8. Facility Maintenance Analysis
9. Installation Assessment
10. Non-structural Attributes
11. General References
12. Installation Reference

Attachment

Document Separator

DEPARTMENT OF THE ARMY
SOUTHEASTERN REGION, U.S. ARMY AUDIT AGENCY
7526 CONNELLEY DRIVE, SUITE J
HANOVER, MARYLAND 21076-1663

REPLY TO
ATTENTION OF:

SAAG-SER

14 December 1994

MEMORANDUM FOR Director of Management

SUBJECT: Review of the Management Control Plan for Base Realignment and Closure 1995, INFORMATION MEMORANDUM SR 95-756

1. This is the report on our review of the management control plan for the Base Realignment and Closure 1995. You requested that we furnish audit support for the 1995 process.

2. The management control plan for 1995 provides adequate controls and, if followed, should provide the Army with accurate and complete data and reliable analyses. The enclosure describes what we reviewed and our objective and conclusion.

3. We discussed the results of the review with key personnel in the Army Basing Study Office. They agreed with our facts and conclusions. This report isn't subject to the official command-reply process.

4. Thank you for the courtesies and cooperation extended to us during the review.

for Robert J. Conners

STEPHEN E. KEEFER
Regional Auditor General

Encl

CF:
Director, The Army Basing Study

MANAGEMENT CONTROL PLAN FOR THE BASE REALIGNMENT AND CLOSURE 1995

WHAT WE REVIEWED

From January to November 1994, we reviewed the management control plan for the Base Realignment and Closure 1995. The review was part of the audit support for the 1995 round of base closures that the Director of Management requested. We will include the results in an overall report to higher levels of management.

We made the review, in most material respects, in accordance with generally accepted government auditing standards. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review.

BACKGROUND

DOD required that the Services develop and implement a management control plan that outlines the internal controls for the 1995 base realignment and closure process. Deputy Secretary of Defense memorandum dated 7 January 1994 outlined requirements for the plan. The plan, as a minimum, should include:

- Uniform guidance defining data requirements and sources.
- Systems for verifying the accuracy of data at all levels of command.
- Documentation justifying changes made to data received from subordinate commands.
- Procedures for checking the accuracy of the analyses made from the data.
- An assessment by auditors of the adequacy of each management control plan.

The Army Basing Study Office, under the Director of Management, is responsible for centrally managing the process and developing Army recommendations for the Base Realignment

and Closure 1995. As part of these responsibilities, the Basing Study Office prepared a management control plan to define the internal controls that will be used for the 1995 process.

The Army had management control plans in the previous cycles of base realignment and closure. In 1993, the major weakness was that the plan wasn't specific enough in identifying detailed controls for data gathering and analysis and didn't recognize the training requirements for study personnel.

OBJECTIVE AND CONCLUSION

Objective: To evaluate the management control plan for Base Realignment and Closure 1995.

Conclusion: The Basing Study Office established a comprehensive management control plan for the 1995 process. The plan fully addressed DOD criteria, improved the 1993 management control plan, and set good controls for the 1995 process. If followed, the plan should give the Army assurance that its analyses are reliable and based on accurate data with complete documentation.

We performed the review in two phases, which paralleled how the Basing Study Office wrote the plan. First, we evaluated the portion of the plan that addressed phase I of the 1995 process. Phase I included procedures and controls for gathering data, assessing installation military values, and providing data to DOD Cross-Service Work Groups. Second, we evaluated the analytical procedures the Basing Study Office set for phase II of the 1995 process. Phase II included procedures and controls for analyzing data accumulated and developing recommendations.

Phase I. Controls prescribed for phase I were adequate. We reviewed the 1995 management control plan in both the draft and final stages of development. We found that this portion of the plan fully addressed issues identified in the DOD memorandum related to the data gathering and installation military value assessment part of the process. DOD guidance for furnishing data to the cross-service work groups wasn't clear enough for the Army to describe specific controls. Until clarifying guidance is received, the Basing Study Office planned to use the same basic data-gathering process that it used for the Army assessments.

The 1993 management control plan had some minor weaknesses. The plan didn't identify specific:

- Plans for collecting accurate and complete information and certifying the accuracy of the data.

- Plans for analyzing information within the Total Army Basing Study Group.

- Training requirements for its personnel.

For the 1995 process, the Basing Study Office required Army installations and all levels of command to use standard automated information systems to retrieve data. This data and other information used in the process were to be certified in writing as to accuracy and completeness. In addition, the Basing Study Office centralized the input, operations, and analyses of the military value computations. Major commands performed these computations and analyses in previous base realignment and closure processes.

The plan also included schedules that identified training requirements for the staff assigned to the Basing Study Office.

Phase II. Controls prescribed for phase II were adequate. The analytical procedures for developing recommendations identified specific steps for documenting and checking for the accuracy and completeness of the analyses made during phase II of the 1995 process. The specific steps furnished good procedures and adequate checks for this part of the process. Our review included preparing a flowchart of the draft analysis process. The flowchart helped us understand the process and determine whether the procedures met the DOD criteria. The Basing Study Office later incorporated our flowchart into the final version of the analytical procedures. This should help basing study analysts maintain a consistent approach in developing recommendations and making sure that their analyses are adequately documented.

Test and Evaluation Joint Cross-Service Data Call

The Army Basing Study 1995

U.S. Army Audit Agency

13 December 1994
Audit Report: SR 95-705

CLOSE HOLD

DEPARTMENT OF THE ARMY
SOUTHEASTERN REGION, U.S. ARMY AUDIT AGENCY
7526 CONNELLEY DRIVE, SUITE J
HANOVER, MARYLAND 21076-1663

REPLY TO ATTENTION OF:

13 December 1994

Director, The Army Basing Study

This is our report on the audit of the Test and Evaluation Joint Cross-Service Data Call. The Director of Management requested the audit. The audit was part of a multilocation audit. We will include these results in an overall report to senior Army management.

These are the report's key sections:

- The Summary of the Audit is an overview of what we audited and found and includes command actions and our suggested actions.

- General Information tells how we conducted the audit and gives other important information on matters related to the audit.

- Annex A lists data elements reviewed. Annex B lists the activities included in the audit. Annex C shows others receiving copies of the report. Annex D lists the audit staff.

This report isn't subject to the command-reply process that Army Regulation 36-2 prescribes.

I appreciate the courtesies and cooperation extended to us during the audit.

FOR THE AUDITOR GENERAL:

Steph E Keefer

STEPHEN E. KEEFER
Regional Auditor General

CLOSE HOLD

CONTENTS

Page

Summary of the Audit

Introduction 5

What We Audited 7

Objectives and Conclusions 7

Command Actions 14

Suggested Actions and Comments 15

General Information

Audit Scope 17

Audit Methodology 17

Responsibilities 18

Annexes

A - Data Elements Reviewed 21

B - Activities Included in the Audit 22

C - Others Receiving Copies of the Report 23

D - Audit Staff 24

SUMMARY OF THE AUDIT

INTRODUCTION

The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. The Deputy Secretary of Defense's 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several study groups. The study groups, led by the Office of the Secretary of Defense, are to evaluate opportunities for cross-service base realignment and closure actions. Those cross-service work groups focus on:

- Medical Treatment Facilities and Graduate Medical Education Centers.
- Test and Evaluation Facilities.
- Laboratory Facilities.
- Undergraduate Pilot Training.
- Depot Maintenance Activities.
- Economic Impact.

Each cross-service work group prepared a data call requiring activities to provide information needed to assess and identify cross-service opportunities.

Army guidance required activities to furnish responses to their major commands. The major commands provided certified data to the Army Basing Study Office. The Basing Study Office will then provide data to each of the cross-service work groups.

The test and evaluation work group issued its data call on 31 March 1994. The data call required responses from test and evaluation activities operating in three functional areas:

- Air vehicles.
- Electronic combat.
- Armament and weapons.

The Army identified eight test and evaluation activities that should report:

WHAT WE AUDITED

We audited the Army's process for responding to the Test and Evaluation Joint Cross-Service Work Group's data call. The audit focused on procedures that reporting activities followed to gather and submit data to the Basing Study Office.

The audit was part of a multilocation audit of data furnished to each of the joint cross-service work groups. The Director of Management requested the audit. Annex B lists the Army activities included in the audit.

OBJECTIVES AND CONCLUSIONS

We established three objectives for the audit. Here are our overall conclusion, objectives, and detailed conclusions:

Overall Conclusion: The data call responses that test and evaluation activities provided the Basing Study Office were generally accurate and adequately supported. After the activities implement the changes we suggest, the responses may be relied on by the cross-service work group for evaluating cross-service opportunities.

Objective: To determine whether major command procedures for processing data call responses from subordinate activities were adequate.

Conclusion: Major commands and their subordinate commands followed adequate procedures for processing data from subordinate activities. Oversight of data call responses was adequate, appropriate activities responded, and reporting activities certified the data.

Oversight

The Basing Study Office. The office instructed Army Materiel Command and Operational Test and Evaluation Command to support the data call by:

- Selecting data call respondents.

Test and Evaluation Command properly excluded Dugway Proving Ground. The cross-service work group properly decided to exclude Dugway Proving Ground because it didn't operate in any of the functional areas that applied to the data call.

The supplemental data call addressed range capacities and requirements for specific categories of systems. The Basing Study Office sent the supplemental data call to Army Materiel Command. Only Army Materiel Command activities own and control ranges in the Army. Operational Test and Evaluation Command controls ranges only when it uses them for its tests.

Operational Test and Evaluation Command. Test and Experimentation Command properly forwarded data calls to 3 of its 10 test activities. It sent data calls to the:

- Experimentation Center, Fort Hunter-Liggett.
- Intelligence and Electronic Warfare Directorate, Fort Huachuca.
- Air Defense Artillery Test Directorate, Fort Bliss.

Test and Experimentation Command appropriately excluded four other directorates. These directorates didn't test any of the functions that applied to the data call.

- Close Combat Test Directorate, Fort Hood.
- Engineer/Combat Support Test Directorate, Fort Hood.
- Command, Control, and Communication Test Directorate, Fort Hood.
- Information Mission Area Test Directorate, Fort Hood.

Test and Experimentation Command also excluded three other directorates.

- Fire Support Test Directorate, Fort Sill.
- Airborne and Special Operations Test Directorate, Fort Bragg.
- Aviation Test Directorate, Fort Hood.

- The maximum capacity of the facility element required activities to complete a Determination of Unconstrained Capacity Form. Activities didn't know the cross-service work group wanted the capacity limited to a fully staffed and funded current facility. The cross-service work group was still working on this problem as we prepared this report in November 1994.

The cross-service work group advised activities to complete the data elements to the best of their ability. It planned to follow up on problem data elements during its review of the data call responses. The work group issued requests for clarification when it detected problems with data call replies. And it issued a supplemental data call to obtain new data on ranges. The Army had responded to all requests at the time we prepared this report in November 1994.

Objective: To determine whether data reported was accurate and adequately supported.

Conclusion: Generally, Army Materiel Command and Operational Test and Evaluation Command submitted accurate and adequately supported data to the Basing Study Office. They agreed to correct and resubmit inaccurate or incomplete responses that we identified. However, some corrections hadn't been submitted at the time we prepared this report in November 1994.

We evaluated the accuracy of the initial data call responses from four activities and supplemental data call responses from two activities. Here are our results from each activity reviewed:

U.S. Army Aviation Technical Test Center, Fort Rucker (Audit Report: CR 94-707)

The Aviation Technical Test Center's responses were generally accurate. It reported accurate data for 15 of the 22 data elements. For the other seven data elements:

- Replies to three data elements included mistakes which the center agreed to correct.

- It understated the maximum capacity of the Component Test Facility by 1.2 million hours. The correct number was 1.3 million hours instead of the reported 0.1 million hours.

- It didn't include $1.4 million of upgrades planned for the Component Test Facility and the Induced Environment Facility.

The Test Center made changes to its data and submitted it to the Basing Study Office.

The Test Center completed the supplemental data call accurately.

The Test Center generally maintained sufficient supporting documentation for all the data elements or recorded its logic and any assumptions for those data elements without documentation.

U.S. Army White Sands Missile Range (Audit Report: WR 94-709, Initial Data Call and Audit Report: WR 94-713, Supplemental Data Call)

The Missile Range reported generally accurate data for the 22 data elements. Its response also included data from its subordinate activity, the Electronic Proving Ground, Fort Huachuca.

The Missile Range had minor mathematical and typographical errors in five data elements and needed additional documentation to support three data elements. The Missile Range accumulated the additional documentation during the review. However, as of this report, the Missile Range hadn't submitted corrections for the five minor mathematical and typographical errors to the Basing Study Office.

The Missile Range reported U.S. Air Force data for the air-to-air missile category in the supplemental data call. However, the National Range Directorate had documentation to support a larger land space requirement for the same weapon system. The cross-service work group needs to review the data to make sure it uses accurate data.

SUGGESTED ACTIONS AND COMMENTS

For the Director,
The Army Basing Study

1. Suggested Action: Direct the Intelligence and Electronic Warfare Directorate to submit a corrected capital improvements plan that includes the $8.4 million not in the data call response.

2. Suggested Action: Direct the White Sands Missile Range to submit corrected data for the five minor mathematical and typographical errors in its data call response.

3. Suggested Action: Advise the cross-service work group about the difference between U.S. Air Force and National Range data for air-to-air missiles at White Sands Missile Range and the need for Air Force data to correct the problem.

Command Comments: The Basing Study Office, Army Materiel Command, and Operational Test and Evaluation Command agreed. Operational Test and Evaluation Command stated that it directed the Intelligence and Electronic Warfare Directorate to submit corrections to the capital improvements data element. Army Materiel Command stated that it directed White Sands Missile Range to correct the minor arithmetical and typographical errors and to resolve the differences in the Air Force and National Range data.

AUDIT SCOPE

We performed the audit:

- At the request of the Director of Management.
- From June through November 1994.

We made the audit, in most material respects, in accordance with generally accepted government auditing standards. Accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our audit.

We reviewed data call responses from four of the eight test and evaluation activities that completed data calls:

- U.S. Army Redstone Technical Test Center, Redstone Arsenal.
- U.S. Army Aviation Technical Test Center, Fort Rucker.
- U.S. Army White Sands Missile Range.
- U.S. Army Intelligence and Electronic Warfare Directorate, Fort Huachuca.

We audited supplemental data calls from the Redstone Technical Test Center and White Sands Missile Range.

The audit covered transactions representative of operations current at the time of the audit.

AUDIT METHODOLOGY

To do the audit, we:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures activities followed to respond to the cross-service group data call.
- Interviewed personnel from the test and evaluation cross-service work group, U.S. Army Materiel Command, U.S. Army Operational Test and Evaluation Command, their major subordinate commands, and test and

ANNEXES

DATA ELEMENTS REVIEWED

Initial Data Call

1. Appropriations expected to generate a test.
2. Amount of test work done at facility.
3. Maximum capacity of the facility.
4. Facility's wartime role.
5. Condition of the facility.
6. Current or future environmental and encroachment factors.
7. Number of tests canceled because of non-DOD factors.
8. Special factors enabling the facility to expand output.
9. DOD's ability to control adjacent areas for tests.
10. Facility support for secure operations.
11. Capital improvements under way or planned for FY 95 and beyond.
12. Number of square miles available for testing.
13. Maximum straight line in nautical miles of airspace available.
14. Facilities physical characteristics including vegetation.
15. Percentage of time the weather restricted tests.
16. Brief description of airfield and support facilities.
17. Types of air vehicle testing the facility can support.
18. Maximum number of simultaneous missions using telemetry.
19. Number and type of simultaneous electronic combat threats.
20. Limitations on weapon system tests.
21. Directed energy weapon system tests.
22. Area available for live rocket, missile, or bomb tests.

Supplemental Data Call

1. Required airspace.
2. Restricted airspace.
3. Required total land space.
4. Required DOD land space.
5. Required sea space.
6. Required straight-line segment.

OTHERS RECEIVING COPIES OF THE REPORT

Assistant Secretary of the Army (Civil Works)
Assistant Secretary of the Army (Financial Management and Comptroller)
Assistant Secretary of the Army (Installations, Logistics and Environment)
Assistant Secretary of the Army (Manpower and Reserve Affairs)
Assistant Secretary of the Army (Research, Development and Acquisition)
General Counsel
Director of the Army Staff
The Inspector General
Chief of Legislative Liaison
Chief of Public Affairs
Deputy Chief of Staff for Operations and Plans
Deputy Chief of Staff for Personnel
Deputy Chief of Staff for Logistics
Assistant Chief of Staff for Installation Management
Deputy Assistant Secretary of the Army for Budget
Director of Management
Director, Program Analysis and Evaluation
Commanders
- U.S. Army Materiel Command
- U.S. Army Test and Evaluation Command
- U.S. Army White Sands Missile Range
- U.S. Army Redstone Technical Test Center
- U.S. Army Aviation Technical Test Center
- U.S. Army Operational Test and Evaluation Command
- U.S. Army Intelligence and Electronic Warfare Directorate
- U.S. Army Test and Experimentation Command

Director, Center for Army Lessons Learned

Comptroller, Department of Defense
Inspector General, Department of Defense
Director, Defense Intelligence Agency
Auditors General
- Air Force Audit Agency
- Naval Audit Service

Document Separator

U.S. Army Audit Agency

Laboratory Joint Cross-Service Data Call

The Army Basing Study 1995

17 November 1994
Audit Report: SR 95-701

CLOSE HOLD

DEPARTMENT OF THE ARMY
SOUTHEASTERN REGION, U.S. ARMY AUDIT AGENCY
7526 CONNELLEY DRIVE, SUITE J
HANOVER, MARYLAND 21076-1663

REPLY TO
ATTENTION OF:

17 November 1994

Director, The Army Basing Study

This is our report on the audit of the Laboratory Joint Cross-Service Data Call. The Director of Management requested the audit. The audit was part of a multilocation audit. We will include these results in an overall report to senior Army management.

These are the report's key sections:

- The Summary of the Audit is an overview of what we audited and found and includes command actions and our suggested action.

- General Information tells how we conducted the audit and gives other important information on matters related to the audit.

- Annex A shows the data elements reviewed. Annex B lists the activities included in the audit. Annex C shows others receiving copies of the report. Annex D lists the audit staff.

This report isn't subject to the command-reply process that Army Regulation 36-2 prescribes.

I appreciate the courtesies and cooperation extended to us during the audit.

FOR THE AUDITOR GENERAL:

Steph E Keefer

STEPHEN E. KEEFER
Regional Auditor General

CLOSE HOLD

CONTENTS

Page

Summary of the Audit

Introduction 5

What We Audited 6

Objectives and Conclusions 6

Command Actions 12

Suggested Action and Comments 12

General Information

Audit Scope 17

Audit Methodology 17

Responsibilities 18

Annexes

A - Data Elements Reviewed 21

B - Activities Included in the Audit 22

C - Others Receiving Copies of the Report 23

D - Audit Staff 24

SUMMARY OF THE AUDIT

INTRODUCTION

The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. The Deputy Secretary of Defense's 1995 Base Realignment and Closure guidance memorandum, dated 7 January 1994, established several study groups. The study groups, led by the Office of the Secretary of Defense, are to evaluate opportunities for cross-service realignment and closure actions. Those cross-service work groups focus on:

- Medical Treatment Facilities and Graduate Medical Education Centers.
- Test and Evaluation Facilities.
- Laboratory Facilities.
- Undergraduate Pilot Training.
- Depot Maintenance Activities.
- Economic Impact.

Each of the cross-service work groups prepared a data call requiring activities to furnish information needed to assess and identify potential cross-service base closure and realignment opportunities.

Army guidance required responses from each activity identified in the cross-service data calls. The activities were to furnish these responses to their major commands. The major commands were to provide certified data to the Army Basing Study Office. The Basing Study Office will then provide data to each of the cross-service work groups.

The laboratory data call consisted of 25 data elements. The data elements included a mix of objective and subjective information about each activity's mission, workload, and facilities. We evaluated the accuracy and supporting documentation for 21 of the 25 data elements. Annex A lists the data elements we evaluated. The four elements that we didn't evaluate addressed the education, experience, accomplishments, and technical papers written by people assigned to the activities.

The laboratory data call identified 27 laboratories within the Army:

Conclusion: The Army had adequate procedures and management controls to process data from subordinate laboratories. The Basing Study Office published guidance on 19 April 1994 applicable to all joint cross-service work group data calls. The guidance came early in the process and established adequate management controls for processing data. The memorandum required commanders to ensure that:

- Responses were supported.
- Data sources were consistent.
- Data was accurate.
- Complete records were maintained.

Also, the guidance required Chiefs of Staff of laboratory activities completing the data call to certify that reports were accurate and complete. Generally, the major commands and the Deputy Chief of Staff for Personnel effectively used and implemented the Basing Study Office guidance.

Army Materiel Command had adequate procedures for reviewing and validating the data from its 16 subordinate laboratories. Before submitting responses to the Basing Study Office, command personnel:

- Verified mathematical calculations.
- Determined whether reported data was accurate based on institutional knowledge and historical records.
- Held several meetings with representatives of the reporting laboratories to discuss, clarify, and revise, when necessary, the data call replies.

Medical Command had adequate controls. It relied on oversight that the U.S. Army Medical Research, Development, Acquisition, and Logistics Command furnished. All six medical laboratories reported through this subordinate command of Medical Command. Medical Research, Development, Acquisition, and Logistics Command reviewed the data based on institutional knowledge and historical records. These procedures were adequate and satisfied the intent of the Army's guidance.

The Communications - Electronics Command Research, Development and Engineering Center didn't maintain or report data in the format requested by the data call. For example, for the workload, excess laboratory capacity, and workyear and lifecycle elements, the cross-service work group asked for information relating to workyears. The data call guidance defined a workyear as a block of 2,080 hours worked. However, the center reported programmed workyears as authorized strength at the beginning of the year and actual workyears as its onhand strength at the end of the year. Center personnel agreed to report and explain this deviation from the data call guidance.

Cross-service guidance for the excess laboratory capacity element also created confusion at the other three laboratories. The element included the following formula using data from the workload element:

Sum of the Peak Workyears
- Sum of the Projected Workyears

Excess Laboratory Capacity

The term "peak workyears" confused laboratory personnel because they didn't know if they should use more than 1 year, and whether they should use actual or programmed workyears.

During the audit, the cross-service work group provided additional guidance directing laboratories to use the highest value for actual workyears listed in the workload element.

- The Aeromedical Research Laboratory and the U.S. Army Missile Research, Development and Engineering Center both complied with this additional guidance and provided accurate data.

- The Research Institute entirely omitted data for the excess laboratory capacity element because management personnel didn't believe it applied to them. The data call guidance specified that the DOD component level was to measure this element, indicating it wasn't applicable to the lower level activities. During our audit, the cross-service work group furnished additional guidance enabling the Research Institute to provide corrected and accurate data.

- Utilities. Reported current capacity instead of expansion capability.

Center personnel agreed with our results and resubmitted corrected data for these elements during our review.

The center also didn't maintain sufficient supporting documentation for six data elements:

- Proximity to mission-related organizations.
- Engineering development.
- In-service engineering.
- Major equipment and facilities.
- Workyears capacity.
- Additional workyears.

The absence of supporting documentation for each of these elements occurred because data call guidance requested information that wasn't available in the laboratory's databases. Center personnel stated that to compile complete supporting documentation would be an immense undertaking. But they did agree to provide detailed explanations of their rationale for deviating from the guidance and document these explanations. However, they hadn't furnished the documentation for these data elements at the completion of our review. The Basing Study Office needs to make sure this documentation is submitted.

The Missile Research, Development and Engineering Center reported accurate and adequately supported data for all 21 data elements.

The Research Institute for the Behavioral and Social Sciences reported accurate data for 19 of the 21 data elements. Reported data for one element (laboratory facilities) included:

- Arithmetical errors.
- Inconsistent rounding.

In addition, the Research Institute didn't respond to the excess laboratory capacity element. An earlier data element also included the data for this element, and Research Institute personnel didn't understand the

Command Comments: Basing Study Office and Army Materiel Command personnel agreed and stated that they directed the Communications - Electronics Command Research, Development and Engineering Center to submit a recertified data call response and gather sufficient supporting documentation. Army Materiel Command had received the recertified response by the completion of our audit.

GENERAL INFORMATION

AUDIT SCOPE

We performed the audit:

- At the request of the Director of Management.
- From May through October 1994.
- At U.S. Army Materiel Command; U.S. Army Medical Command (Provisional); the Army Basing Study Office; U.S. Army Medical Research, Development, Acquisition, and Logistics Command; and at the four laboratories listed in Annex B.

We made the audit, in most material respects, in accordance with generally accepted government auditing standards. Accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our audit.

The audit covered transactions representative of operations current at the time of the audit.

AUDIT METHODOLOGY

To do the audit, we:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures laboratories followed to respond to the cross-service group data call.
- Interviewed managers from the Army, major commands, and laboratories.
- Tracked data element responses to supporting documentation, including accounting systems, memorandums, Army regulations, internal reports, and historical workload data.
- Verified calculations of data values.
- Tested the accuracy of selected source documentation.

ANNEXES

DATA ELEMENTS REVIEWED

1. Workload
2. Excess Laboratory Capacity
3. Mission
4. Geographical/Climatological Features
5. Licenses and Permits
6. Environmental Constraints
7. Special Support Infrastructure
8. Proximity to Mission-Related Organizations
9. Total Personnel
10. Workyear and Lifecycle
11. Engineering Development
12. In-Service Engineering
13. Direct Funding
14. Other Obligations
15. Major Equipment and Facilities
16. Laboratory Facilities
17. Workyears Capacity
18. Additional Workyears
19. Military Construction
20. Buildable Acres
21. Utilities

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- U.S. Army Missile Research, Development and Engineering Center
- U.S. Army Communications - Electronics Command Research, Development and Engineering Center

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- Center for Army Lessons Learned

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REPLY TO
ATTENTION OF:

SAAG-SER

12 AUG 1994

MEMORANDUM FOR Director, U.S. Army Research Institute for the Behavioral and Social Sciences; Alexandria, Virginia

SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM SR 94-714

1. **Introduction.** This is the report on our review of the data your command provided for the DOD cross-service work group laboratory data call. The Director of Management requested the review. We will include data in this report in a summary report to higher levels of management.

2. **Scope of Review.** We made the review from June through August 1994. In most material respects, we made the review in accordance with generally accepted government auditing standards. And, accordingly, we tested internal controls to the extent we considered necessary under the circumstances. We didn't follow certain aspects of the fieldwork and reporting standards. In our opinion, however, not following those standards had no material effect on the results of our review. Also, we limited our fieldwork to documentation and facilities at Headquarters, U.S. Army Research Institute for the Behavioral and Social Sciences in Alexandria. We didn't visit any of the Institute's 11 subordinate activities. In our opinion, this limitation on our scope of work had no material effect on the results of our review.

3. **Methodology of Review.** Our review focused on data accuracy, supporting documentation, and procedures used for gathering and submitting data to the laboratory cross-service work group. We:

- Reviewed cross-service work group, DA, and major command guidance and compared it with procedures Institute personnel followed to respond to the cross-service work group data call.

- Interviewed personnel from the Directorate of Plans, Programs, and Organizations Office who helped prepare, review, and validate responses to the data elements.

- Tested the accuracy of selected source documents.

- Observed the Institute's facilities and operations.

SAAG-SER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM SR 94-714

4. **Background**

a. **Cross-Service Work Groups.** The Defense Base Closure and Realignment Act of 1990, as amended, provides DOD a means to make needed adjustments to the installation structure. Deputy Secretary of Defense 1995 Base Realignment and Closure guidance memorandum dated 7 January 1994 established several DOD-led study groups to evaluate opportunities for cross-service realignment and closure actions. Those work groups focus on:

- Medical Treatment Facilities and Graduate Medical Education Centers.
- Test and Evaluation Facilities.
- Laboratory Facilities.
- Undergraduate Pilot Training.
- Depot Maintenance Activities.
- Economic Impact.

Each of the work groups prepared a data call requiring activities to furnish information needed to assess and identify cross-service base closure and realignment opportunities.

b. **Army Process.** Army guidance required responses from each activity identified in the cross-service data calls. Activities were to furnish these responses to their major commands. The major commands were to send certified data to the Army Basing Study Office. The Army Basing Study Office would then provide data to each of the DOD cross-service work groups. This memorandum addresses the Institute's response to the Army Basing Study Office for the laboratory data call.

c. **Laboratory Data Call.** The laboratory data call consisted of 25 data elements. The data elements included a mix of objective and subjective information about the Institute's mission, workload, and facilities. We evaluated the accuracy and supporting documentation for 21 of the 25 data elements. We didn't evaluate responses for the remaining four data elements. These four elements addressed the education, experience, and accomplishments of the Institute's personnel, and their written technical papers.

d. **Army Research Institute.** The Institute is a field operating agency of the Deputy Chief of Staff for Personnel. Its mission is to support the total force through timely research in the accession, training, use, and retention of soldiers. Its mission placed the Institute in the laboratory category.

5. **Objectives and Conclusions.** Our specific objectives were to determine whether the data you furnished for the DOD cross-service work group was:

- Accurate.
- Supported by reasonable documentation.
- In accordance with cross-service work group and DA guidance.

Generally, data that the Institute provided was accurate, adequately supported, and consistent with cross-service work group guidance. We discuss details on the elements we reviewed in the following paragraph and the annex.

a. **Accuracy of Reported Data.** The Institute accurately reported:

- Workload.
- Mission.
- Geographic/Climatological Features.
- Licenses and Permits.
- Environmental Constraints.
- Special Support Infrastructure.
- Proximity to Mission-Related Organizations.
- Total Personnel.
- Workyear and Lifecycle.
- Engineering Development by Acquisition Category.
- In-Service Engineering.
- Direct Funding.

- Other Obligation Authority.

- Major Equipment and Facilities.

- Workyears Capacity.

- Additional Workyears.

- Military Construction.

- Buildable Acres.

- Utilities.

(1) **Inaccurate Data.** Data that the Institute reported for laboratory facilities space capacity included arithmetic errors and inconsistent rounding. The Institute corrected the errors we identified during our review.

(2) **Data Omitted.** Initially, the Institute didn't respond to the excess laboratory capacity element because it hadn't received adequate guidance. The cross-service work group provided clarification which enabled the Institute to respond. The Institute then provided accurate data for the data element.

b. **Supporting Documentation.** The Institute maintained sufficient supporting documentation for all of the elements reviewed. Documentation supporting the Institute's response included:

- Accounting system reports.

- Memorandums and correspondence.

- Army regulations.

- Internal reports.

- Historical workload data.

- Structure and Manpower Allocation System Reports.

c. **Compliance With Cross-Service Work Group and DA Guidance.** Generally, the Institute gathered and reported data consistent with work group and DA guidance. The Institute provided adequate footnotes to clarify its response and properly certified its data call submission.

SAAG-SER
SUBJECT: Review of Data Furnished DOD Cross-Service Work Groups--INFORMATION MEMORANDUM SR 94-714

6. **Discussion of Results.** We discussed the results of our review with the Chief of the Plans, Programs, and Organizations Office on 13 July 1994. The Institute corrected all deficiencies we noted during our review, and no further action is needed. This report isn't subject to the official command-reply process.

7. Thank you for the courtesies and cooperation extended to us during the review.

for Robert L Thomas

STEPHEN E. KEEFER
Regional Auditor General

Encl

CF:
Inspector General, Department of Defense
Deputy Chief of Staff for Personnel
Army Basing Study Office

ANNEX

DATA ELEMENTS REVIEWED

Workload (Element 2.1)

The Institute reported the following funding and workyear data:

	Fiscal Years											
	86	87	88	89	90	91	92	93	94	95	96	97
- Programmed Funds*	50	45	47	53	34	36	37	37	31	27	25	27
- Actual Funds*	51	46	47	52	35	36	37	38	--	--	--	--
- Programmed Workyears	234	229	218	228	228	227	234	227	226	226	226	226
- Actual Workyears	240	235	234	248	244	222	227	227	--	--	--	--

*Figures in millions of dollars.

We verified the supporting documentation for the above tables. Sources used were the Revised Approved Program, U.S. Army Research Institute Fund Guidance, Research and Development Fund History, Manpower Authorization, Table of Distribution and Allowance, Base Realignment and Closure Manprint, Structure and Manpower Allocation System Report, Manpower Authorization Documentation, Information Management System Report, and Status of Approved Resources Report.

Excess Laboratory Capacity (Element 2.2)

Initially, the Institute didn't provide a response for this data element. Its interpretation was that this element would be answered at the DOD level. In addition, the data used to answer this element is from data used to answer data element 2.1.

We verified the following data using the same sources used to support element 2.1.:

Peak workyear (Actual FY 89)		Workyear (Projected FY 97)		Excess Capacity
248	(-)	226	=	22

The Institute resubmitted its data call on 13 July 1994 and provided the above information.

ANNEX

DATA ELEMENTS REVIEWED

Mission (Element 3.0)

The Institute reported that its missions were to:

- Maximize combat effectiveness through timely research in the accession, training, use, and retention of soldiers.
- Support decision making by the Army's leaders through personnel performance and training, research and development, and test and evaluation programs.

We verified the mission by reviewing AR 10-7 and Army Research Institute Supplement 1 to AR 10-7.

Geographic/Climatological Features (Element 3.1.1)

The Institute responded that there weren't any geographic or climate features relevant to the mission.

We verified that Institute facilities are composed of standard office space through visual inspection and interviews with Institute personnel.

Licenses and Permits (Element 3.1.2)

The Institute responded that there are no special licenses or permits necessary to carry out the mission.

We verified this through visual inspection and interviews with Institute personnel.

Environmental Constraints (Element 3.1.3)

The Institute responded that there are no environmental constraints needed to carry out the mission.

We verified this through visual inspection and interviews with Institute personnel.

ANNEX

DATA ELEMENTS REVIEWED

Special Support Infrastructure (Element 3.1.4)

The Institute responded that there is no special support infrastructure needed to carry out the mission.

We verified this through visual inspection and interviews with Institute personnel.

Proximity to Mission-Related Organizations (Element 3.1.5)

The Institute reported the following data about the proximity to mission-related organizations:

Common Support Function:

Name	Type of Organization	Workyears Performed	Workyears Funded
Training Systems			
Consortium of Universities in the Greater Washington Area	Universities/ Colleges	----	20.72
U.S. Army Armor Center	Training School/ Operational Units	14	----
U.S. Army Aviation Center	Training School/ Operational Units	16	----
U.S. Army Infantry Center	Training School/ Operational Units	11	----
U.S. Army Simulation, Training, and Instrumentation Command	Material Acquisition	10	----
Manpower and Personnel			
Consortium of Universities in the Greater Washington Area	Universities/ Colleges	----	15.21
U.S. Army Combined Arms Center	Training School	11	----
U.S. Military Academy	University	2	----

We verified this data using internal documentation and the FY 93 Status of Approved Resources Report.

ANNEX

DATA ELEMENTS REVIEWED

Total Personnel (Element 3.2.1)

The Institute reported the following data on total personnel:

Common Support Function: Manpower and Personnel
Number of Personnel

Types of Personnel	Government	
	Civilian	Military
Technical	45	2
Management	8	1
Other	34	0

Common Support Function: Training Systems
Number of Personnel

Types of Personnel	Government	
	Civilian	Military
Technical	66	8
Management	13	0
Other	54	1

We verified the data in the preceding tables using the Table of Distribution and Allowances and historical reports. There were no personnel at the On-Site Federally Funded Research and Development Centers and On-Site Systems Engineering Technical Assistance Centers.

Workyear and Lifecycle (Element 3.3.1.1)

The Institute reported the following data on actual workyears:

Laboratory	Fiscal Year 1993 Actual Workyears	
	Civilian	Military
Manpower and Personnel Science and Technology	90	3
Training Systems Science and Technology	137	7
Engineering Development	0	0
In-Service Engineering	0	0

We verified the data in the preceding tables using the Sources and Uses Report, and documentation provided in the Institute's historical reports. There were no personnel at the On-Site Federally Funded Research and Development Centers and On-Site Systems Engineering Technical Assistance Centers.

ANNEX

DATA ELEMENTS REVIEWED

Engineering Development by Acquisition Category (Element 3.3.1.2)

The Institute responded that there weren't any activities involved in engineering development.

We verified this through visual inspection and interviews with Institute personnel.

In-Service Engineering (Element 3.3.1.3)

The Institute responded that there weren't any activities involved with in-service engineering.

We verified this through visual inspection and interviews with Institute personnel.

Direct Funding (Element 3.3.2.1)

The Institute reported the following direct funding data (in thousands):

Common Support Function	FY 94	FY 95	FY 96	FY 97
Manpower and Personnel	$14,366	$12,424	$11,726	$12,350
Training Systems	17,575	14,497	13,264	14,201

We verified the data in the table using the Revised Approved Program, the Execution Review Decisions, the FY 95 Presidents Budget and the FY 95 Research, Development,Test, and Evaluation Description Summary.

Other Obligation Authority (Element 3.3.2.2)

The Institute provided the following data on other obligation authority:

Common Support Function	FY 94	FY 95	FY 96	FY 97
Manpower and Personnel	$ 200,000	$ 295,000	$ 400,000	$ 400,000
Training Systems	3,692,154	6,312,000	7,000,000	7,000,000

We verified the data in the table using the Reimbursable Funds Report and other internal records and projections.

ANNEX

DATA ELEMENTS REVIEWED

Major Equipment and Facilities (Element 3.4.1)

The Institute reported that the headquarters is approximately 50,000 square feet in the U.S. Army Materiel Command building in Alexandria, Virginia. The facilities and equipment aren't unique. The replacement cost is $6,200,000.

We verified this through visual inspection of the Institute and data provided by the facility engineers. The data call also included information from 11 activities at other locations. We verified the data using headquarters' documentation.

ANNEX

DATA ELEMENTS REVIEWED

Laboratory Facilities (Element 3.5.1)

The Institute reported the following facilities data:

Common Support Functions	Type of Space	Space Capacity (In thousands of square feet) Current	Used	Excess
Manpower and Personnel (60%)	Administrative	35	32	3
Training Systems (40%)	Technical	10	10	0
	Storage	5.5	5.5	0

The Institute also submitted data from 11 subactivities which we verified at the headquarters level. Data reported for 4 of the 11 subactivities wasn't accurate.

Fort Leavenworth, Kansas

Common Support Functions	Type of Space	Space Capacity (In thousands of square feet) Current	Used	Excess
Manpower and Personnel	Administrative	7.6(7.7)	7.6(7.7)	0

Fort Benning, Georgia

Training System	Administrative	6	6	0
	Technical	.5	.5	0
	Storage	1.3(1)	1.3(1)	0

Boise, Idaho

Training System	Administrative	2.6(3)	2.6(3)	0

Presidio of Monterey, California

Training System	Administrative	10.7(10)	10.7(10)	0
	Technical	2.3(4)	2.3(4)	0
	Storage	2.1(3)	2.1(3)	0

We verified data for the Institute Headquarters using documentation that the facility engineers provided.

The Institute corrected all errors during the review. The accurate values are shown above, with the original incorrect figure in brackets. Errors were all due to rounding and arithmetic. Based on the audit results, the Institute submitted a corrected data call to the Army Basing Study on 13 July 1994.

ANNEX

DATA ELEMENTS REVIEWED

Workyears Capacity (Element 3.5.1.1)

The Institute responded that its headquarters has the capacity within its current facilities to increase the number of personnel and equipment to 1,000 percent of its current resources. The Institute clarified its response by stating that it was based on the assumption it could occupy all 10 floors of the Army Materiel Command building. The Institute currently occupies only one floor of the building. While it is only theoretical that the Institute could occupy the entire building--numerous other occupants would have to be relocated. We determined this response was consistent with cross-service work group guidance.

We verified all workyears capacity by visual inspection and data that the facility engineers provided. The Institute currently occupies 1 floor of 10 floors in the Army Materiel Command building. Therefore, it responded that, if it was the sole occupant of the building, it could increase its personnel and equipment 10 times. No errors were found.

Additional Workyears (Element 3.5.1.2)

The Institute responded that the headquarters has the capacity to absorb 20 additional similar workyears for both common support functions within the space currently allocated.

We verified the additional unconstrained capacity by reviewing data that the facility engineers provided and a memorandum of understanding between the Institute and U.S. Total Army Personnel Command. The memorandum requires the transfer of approximately 20 individuals to the Institute effective 1 October 1994. The Institute won't be given additional space to support the transferred activity. No errors were found.

Military Construction (Element 3.5.1.3)

The Institute responded that there is no military construction programmed in FY 95 for its headquarters.

We verified programmed military construction by reviewing data that the facility engineers provided. The headquarters is located within the Army Materiel Command building, which is leased government property. No errors were found.

ANNEX

DATA ELEMENTS REVIEWED

Buildable Acres (Element 3.5.2)

The Institute responded there are no buildable acres at its headquarters.

We verified buildable acres by reviewing data provided by the facility engineers. The headquarters is located within the Army Materiel Command building, which is leased government space. No errors were found.

Utilities (Element 3.5.3)

The Institute responded there is no capability to expand the utility service at its headquarters.

We verified utilities capacity by reviewing data that the facility engineers provided. The headquarters is located within the Army Materiel Command building, which is leased government space. No errors were found.

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