DCN 795

221

NCCOSC RDT&E DIV DET WARMINSTER N49281

DATA CALL 1: GENERAL INSTALLATION INFORMATION

1. ACTIVITY: Follow example as provided in the table below (*delete the examples when providing your input*). If any of the questions have multiple responses, please provide all. If any of the information requested is subject to change between now and the end of Fiscal Year (FY) 1995 due to known redesignations, realignments/closures or other action, provide current and projected data and so annotate.

- Name

Official name	Naval Command, Control and Ocean Surveillance Center, RDT&E Division Detachment Warminster PA
Acronym(s) used in correspondence	NCCOSC RDT&E Div Det Warminster
Commonly accepted short title(s)	NRaD Det Warminster

- Complete Mailing Address: Naval Command, Control and Ocean Surveillance Center RDT&E Division
  P. O. Box 5152
  Warminster, PA 18974-0591

- PLAD: NCCOSC RDTE DIV DET WARMINSTER PA

- PRIMARY UIC: N49281 (Plant Account UIC for Plant Account Holders)
  Enter this number as the Activity identifier at the top of each Data Call response page.

- ALL OTHER UIC(s): N66001 PURPOSE: FINANCIAL
  N43736 GPS on-site personnel

2. PLANT ACCOUNT HOLDER:

- Yes ____ No __X__ (check one)

3. ACTIVITY TYPE: Choose most appropriate type that describes your activity and completely answer all questions.

ACTIVITY nmp activity nmp

• HOST ~~COMMAND~~: A host ~~command~~ is an activity that provides facilities for its own functions and the functions of other (tenant) activities. A host has accountability for Class 1 (land), and/or Class 2 (buildings, structures, and utilities) property, regardless of occupancy. It can also be a tenant at other host activities.

• Yes ____ No X (check one)

ACTIVITY nmp activity nmp

• TENANT ~~COMMAND~~: A tenant ~~command~~ is an activity or unit that occupies facilities for which another activity (i.e., the host) has accountability. A tenant may have several hosts, although one is usually designated its primary host. If answer is "Yes," provide best known information for your primary host only.

• Yes X No ____ (check one)

• Primary Host (current) UIC: N62269

• Primary Host (as of 01 Oct 1995) UIC: N62269

• Primary Host (as of 01 Oct 2001) UIC: N49281[1]

[1] As a result of a BRAC-91 decision, the NCCOSC RDTE DIV DET Warminster will acquire a portion of the current NAWC-AD Class I and Class II property which will be developed into a small compound sized for the Warminster Detachment.

• INDEPENDENT ACTIVITY: For the purposes of this Data Call, this is the "catch-all" designator, and is defined as any activity not previously identified as a host or a tenant. The activity may occupy owned or leased space. Government Owned/Contractor Operated facilities should be included in this designation if not covered elsewhere.

Yes ____ No X (check one)

4. SPECIAL AREAS: List all Special Areas. Special Areas are defined as Class 1/Class 2 property for which your command has responsibility that is not located on or contiguous to main complex.

Name	Location	UIC
None		

5. DETACHMENTS: If your activity has detachments at other locations, please list them in the table below.

Name	UIC	Location	Host name	Host UIC
None				

6. BRAC IMPACT: Were you affected by previous Base Closure and Realignment decisions (BRAC-88, -91, and/or -93)? If so, please provide a brief narrative.

As a result of BRAC-91 decisions, the Naval Air Warfare Center, Aircraft Division (NAWC-AD) was directed to close its operations at Warminster and relocate to NAS Patuxent River, MD. Concurrently, the Navigation and Communications functions previously performed by NAWC-AD were transferred to NCCOSC RDTE DIV as a Warminster Detachment. A small portion of the Class I and Class II property, currently owned by NAWC-AD will be transferred to the Warminster Detachment in FY-96/FY97 to establish a compound sized to the detachment operations.

7. MISSION: Do not simply report the standard mission statement. Instead, describe important functions in a bulletized format. Include anticipated mission changes and brief narrative explanation of change; also indicate if any current/projected mission changes are a result of previous BRAC-88, -91,-93 action(s).

Current Missions

- Principal full-spectrum RDT&E Laboratory for the research, development, test, acquisition and integration of Navigation Systems, Sensors and Technology for all Naval Platforms. Navigation systems include: all Inertial Navigation Systems including Electrostatically Suspended Gyros (submarines), Ring Laser, Fiber Optic and Superconducting Gyroscope-based developmental systems; all external navigation reference systems including serving as the DoD Central Engineering Activity for Global Positioning System (GPS) receiver design, test and integration; and supporting weapon system developers in ensuring that the navigation product provided meets the system requirements.

- Principal full-spectrum DoD Laboratory providing RDT&E, acquisition, system integration, life-cycle-support and training to develop and maintain the Ocean Survey Systems for oceanographic and surveillance applications including bottom-mapping, ocean bathymetric measurements, mission control and processing.

- Principal RDT&E Laboratory for the research, development, test, acquisition and integration of airborne communications equipment and RF electronic device technology. Developments include Anti-Jam (A/J) and Low-Probability-of-Intercept (LPI) communications systems such as the Navy LPI Program, the Advanced Digital Receiver and Joint DoD communications systems such as JTIDS, LINK 16 and MIDS.

- Operates as a DBOF funded facility providing a full-spectrum of engineering RDT&E services to DoD, Navy, Air Force, the Coast Guard, Federal Aviation Agency (FAA), the National Oceanic and Atmospheric Agency (NOAA) in the areas of Navigation, Communications, and Airborne C^3.

Projected Missions for FY 2001

- To continue performing current missions and to expand in the following areas:

Navigation.

- Premier DoD R&D Laboratory for the development and integration of Navigation sensors and systems (DoD vice Navy).

- To qualify GPS simulators and receiving elements as part of a national receiver quality certification process under the auspices of the GPS Joint Program Office (JPO) for all US and allied requesters (including non-DoD users).

- To perform the total life cycle support function for the GPS receiver on the Tomahawk Land Attack Missile.

- To support the Federal Aviation Agency in the development and application of the Global Positioning System (GPS) to Precision Approach for the nation's air space.

Ocean Survey Programs

- Under Defense Conversion initiatives, to provide system design, engineering and integration for the NOAA Coastal Waterway bottom-mapping effort.

Communications, RF Devices and C^3

- To exploit spread spectrum technology developed by the military for anti-jam and low-probability-of-intercept communications to interference rejection and privacy applications to non-DoD Government uses such as cellular telephone and personnel communications.

- To develop a miniature GPS receiver for a low-cost, disposable radiosonde used to measure the weather by NOAA.

8. UNIQUE MISSIONS: Describe any missions which are unique or relatively unique to the activity. Include information on projected changes. Indicate if your command has any National Command Authority or classified mission responsibilities.

Current Unique Missions

Navigation

- Only Laboratory which can conduct RDT&E on Submarine Inertial Navigation Sensors and Systems. Highest Precision, Most Stable Inertial Laboratory in the country and premier Navy R&D Laboratory for Inertial Sensor Development. (Extremely low noise level of 10^{-7}g's, and 12 granite piers bonded to bedrock with long term test pier stability of < 1 arc sec/month.)

Ocean Survey Programs

- Only Navy activity providing totally integrated "TURN-KEY" Ocean Survey Systems.
  -Design, develop and maintain NAVOCEANO Strategic and Multi-Mission Ocean Survey Systems.
  -Design and Develop the United Kingdom Ministry of Defense (UK MOD) Strategic Warfare System Ocean Survey Equipment.

Projected Unique Missions for FY 2001

- To qualify GPS simulators and receiving elements as part of a national receiver quality certification process under the auspices of the GPS JPO for all US and allied requesters.

- Continuing to provide all our current unique missions.

9. IMMEDIATE SUPERIOR IN COMMAND (ISIC): Identify your ISIC. If your ISIC is not your funding source, please identify that source in addition to the operational ISIC.

• Operational name	UIC
NCCOSC RDTE DIV SAN DIEGO	N66001
• Funding Source	UIC
DBOF[2]	Various

[2]Multiple funding sources under DBOF system includes SPAWAR, NAVAIR, ONR, SSPO, etc. (see item 13 for fuller listing). Warminster detachment receives no direct site funding.

10. PERSONNEL NUMBERS: Host activities are responsible for totalling the personnel numbers for all of their tenant commands, even if the tenant command has been asked to separately report the data. The tenant totals here should match the total tally for the tenant listing provided subsequently in this Data Call (see Tenant Activity list). (Civilian count shall include Appropriated Fund personnel only.)

On Board Count as of 01 January 1994

	Officers	Enlisted	Civilian(Appropriated)
• Reporting ~~Command~~ Activity name NCCOSC RDTE DIV DET WARMINSTER	4	0	265
• Tenants (total)	0	0	0

Authorized Positions as of 30 September 1994[3]

	Officers	Enlisted	Civilian(Appropriated)
• Reporting ~~Command~~ Activity name NCCOSC RDTE DIV DET WARMINSTER	4	0	265
• Tenants (total)	0	0	0

[3]Personnel ceilings are allocated at the Division Level (i.e., NCCOSC RDTE DIV), not at the detachment level. Numbers shown are rough approximations based on current staffing.

11. KEY POINTS OF CONTACT (POC): Provide the work, FAX, and home telephone numbers for the Commanding Officer or OIC, and the Duty Officer. Include area code(s). You may provide other key POCs if so desired in addition to those above.

Title/Name	Office	Fax	Home
• CO/OIC Captain Kirk Evans	(619) 553-3000	(619) 553-5188	(619) 222-9432
• Duty Officer	(619) 553-4621	(619) 553-4402	[N/A]
• BRAC-95 POC Dick Poehling	(619) 553-2714	(619) 553-6582	(619) 273-2668

12. TENANT ACTIVITY LIST: This list must be all-inclusive. Tenant activities are to ensure that their host is aware of their existence and any "subleasing" of space. This list should include the name and UIC(s) of all organizations, shore commands and homeported units, active or reserve, DOD or non-DOD (include commercial entities). The tenant listing should be reported in the format provide below, listed in numerical order by UIC, separated into the categories listed below. Host activities are responsible for including authorized personnel numbers, on board as of **30 September 1994**, for all tenants, even if those tenants have also been asked to provide this information on a separate Data Call. (Civilian count shall include Appropriated Fund personnel only.)

• Tenants residing on main complex (shore commands)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
N/A				

• Tenants residing on main complex (homeported units.)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
N/A				

- Tenants residing in Special Areas (Special Areas are defined as real estate owned by host command not contiguous with main complex; e.g. outlying fields).

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
N/A					

- Tenants (Other than those identified previously)

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
N/A					

13. REGIONAL SUPPORT: Identify your relationship with other activities, not reported as a host/tenant, for which you provide support. Again, this list should be all-inclusive. The intent of this question is capture the full breadth of the mission of your command and your customer/supplier relationships. Include in your answer any Government Owned/Contractor Operated facilities for which you provide administrative oversight and control.

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
SPAWAR	Arlington, VA	Provide engineering support in the development and integration of the Global Positioning System (GPS) receivers and the Joint Tactical Information Distribution System (JTIDS) for anti-jam communications. (Work Requests)
NAVOCEANO	Stennis Space Center, MS	Support strategic and multi-mission survey system programs. (MOU and Work Requests)
NAVAIR	Arlington, VA	Support the development and integration of Navigation equipment such as GPS, airborne inertials, LPI altimeters and communications systems, et. al aboard Navy aircraft. (Work Requests)
NAVSEA	Arlington, VA	Support numerous shipboard Navigation system developments and the T-AGS 60 Class Ship Echo Sounding System. (Work Requests)
SSPO	Arlington, VA	Support Trident Planar Array Bathymetric Fix Project. (Work Request)
NRL	Washington, DC	Support Sonar Data Baskscatter Imagery Processing and to support the development of technology to support Navy navigation, airborne communications and airborne electronics. (Work Request)

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NOAA	Washington, DC	Support NOAA Fleet Replacement and Modernization Program. (MOU in process)
GPS Joint Program Office	World-wide	Provide engineering services, new concepts, initiatives, and RDT&E support to the GPS Program. (MOU)
Office of Naval Research	Arlington, VA	Technology work in the areas of Navigation, Airborne Communications, RF Devices and Avionics Systems. (Work Requests)
UK MOD	Portland England	Provide a total "TURN-KEY" Ocean Survey System. (via SSPO Polaris Sales Agreement)
Air Force (Wright Laboratories)	Dayton, Ohio	Perform and coordinate Research and Development programs in the areas of airborne navigation and communications and to support the integration of GPS receivers on Air Force fighters. (via MOUs and MIPRs)
U. S. Navy, Naval Air Warfare Center Aircraft Division	Warminster, PA	Support Airborne Communications, V-22, CH-46 Integ. & LPI Altimeter. (Work Request)
SAF/DSPO - Secretary of the Air Force - Defense Support Project Office	Washington, DC	Technical support to Defense Support Project Office. (Work Request)
USCG Hdqtrs (DoT)	Washington, DC	Technical support on GPS/HC-130 Integ. (MIPR)
USCG Electronic Engineering Ctr. (DoT)	Wildwood, NJ	Technical support on DGPS. (MIPR)
PEO(CU) (USN)	Washington, DC	TLAM technical support. (Tasking Document)

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NAWC/WD (USN)	China Lake, CA	TLAM GPS SSA technical support. (Work Request)
FAA (DoT)	Washington, DC	Technical support for Precision Approach. (Interagency Agree)
46 Test Group (USAF)	Alomogorda, NM	GPS lab Test and Evaluation. (MIPR)
ARPA (DoD)	Arlington, VA	Common Grid. (ARPA Order)
USMC (USN)	Cherry Point, NC	KC-130 integration (Work Request)
SMC (USAF)	Los Angeles, CA	GPS development and test. (MOU)
Kearfott	Wayne, NJ	Equipment testing. (SOW)
NADEP (USN)	Cherry Point, NC	Technical support on ARC-210. (Work Request)
Avionic Elect Combat (USA)	St.Louis, MO	Technical support on Embedded Doppler. (Work Request)
NSWC (USN)	Panama City, FL	Installation (Work Request)

14. FACILITY MAPS: This is a primary responsibility of the plant account holders/host commands. Tenant activities are not required to comply with submission if it is known that your host activity has complied with the request. Maps and photos should not be dated earlier than 01 January 1991, unless annotated that no changes have taken place. Any recent changes should be annotated on the appropriate map or photo. Date and label all copies.

- Local Area Map. This map should encompass, at a minimum, a 50 mile radius of your activity. Indicate the name and location of all DoD activities within this area, whether or not you support that activity. Map should also provide the geographical relationship to the major civilian communities within this radius. (Provide 12 copies.)

- Installation Map / Activity Map / Base Map / General Development Map / Site Map. Provide the most current map of your activity, clearly showing all the land under

ownership/control of your activity, whether owned or leased. Include all outlying areas, special areas, and housing. Indicate date of last update. Map should show all structures (numbered with a legend, if available) and all significant restrictive use areas/zones that encumber further development such as HERO, HERP, HERF, ESQD arcs, agricultural/forestry programs, environmental restrictions (e.g., endangered species). (Provide in two sizes: 36"x 42" (2 copies, if available); and 11"x 17" (12 copies).)

- Aerial photo(s). Aerial shots should show all base use areas (both land and water) as well as any local encroachment sites/issues. You should ensure that these photos provide a good look at the areas identified on your Base Map as areas of concern/interest - remember, a picture tells a thousand words. Again, date and label all copies. (Provide 12 copies of each, 8½"x 11".)

- Air Installations Compatible Use Zones (AICUZ) Map. (Provide 12 copies.)

Maps and Photo to be provided by the host, NAWC-AD.

BRAC-95

DATA CALL NUMBER ONE

Data for

Naval Command, Control and Ocean Surveillance Center, RDT&E Division, Detachment Warminster, PA

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number One - NCCOSC RDTE DIV DET WARMINSTER PA

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

NEXT ECHELON LEVEL (if applicable)

J. J. DONEGAN
NAME (Please type or print)

Signature

Commander
Title

6/28/94
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

W. H. CANTRELL
NAME (Please type or print)

W. H. Cantrell
Signature

Commander
Title

1 July 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

J. B. GREENE, JR.
NAME (Please type or print)

Signature

ACTING
Title

14 JUL 1994
Date

Activity

INSTALLATION DATA

GENERAL INFORMATION

This is the first Data Call for the 1995 base realignment and closure (BRAC-95) process. This General Information Data Call is designed to provide the Base Structure Evaluation Committee (BSEC) with a broad view of each installation, looking across the entire range of missions performed, who performs them, and the geographic alignment of each installation (internal to itself and the relationship to the surrounding community). The desired end result of this Data Call is to give the BSEC a complete picture of the shore facility infrastructure and general information on every organization performing a mission for the Department of the Navy today. This review is not limited to "above threshold" activities (those activities with more than 300 civilian personnel). It is absolutely imperative that all organizations complete the appropriate information about their organization so that follow-on Data Calls can be correctly focused and complete. There will be other Data Calls organized by category/subcategory (function) to gather information on military value, capacity, and economic/environmental impact.

The activities receiving this Data Call will fall into one of three categories: host command; tenant command; or independent activity. Each activity will be asked to identify themselves into one of these three categories. Due to the broad nature of the Data Call, not all questions will be applicable to all respondents, but all questions require a complete response. If a question is not applicable to your organization, clearly mark the response as "N/A"; do not leave blank.

The Data Call has been structured so that all responses, with the exception of the facility maps, can be made within the Data Call without the need to provide enclosures. The format for the tabular data allows for the expansion of each row as additional data is inputted, by pressing "enter" each time a new entry is made. Responses should be as complete and concise as possible.

In accordance with SECNAVNOTE 11000 of 08 December 1993, pertaining to the BRAC-95 process, all data provided must be certified and will be submitted hardcopy. Distribution of the Data Calls will flow through the operational command structure and inquiries should be directed in that manner to facilitate consistent and informative responses.

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

21 JUNE 1994
Date

NCCOSC RDTE DIV
Activity

AMENDMENT ONE TO DATA CALL NUMBER ONE

NCCOSC RDTE DIV DET WARMINSTER PA

See Revised Data Call

CAPACITY ANALYSIS:
DATA CALL #4 WORK SHEET FOR
TECHNICAL CENTER or LABORATORY: **NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)**

GENERAL NOTE:

After implementing a significant reorganization driven by previous BRAC decisions and right sizing, NCCOSC Detachment sites and field offices are no longer functionally independent activities. To achieve greatest efficiency possible, while operating with a smaller work force at multiple field sites, business operations, technical functions, administration and workload have been integrated, and are managed and operated at the Division level. As a result, budget and workload data requested by this data call is not routinely available at the individual detachment level and is therefore not included in this data submission. However, data found in the NCCOSC RDTE DIV SAN DIEGO response for Data Call Number Four provides integrated budget and workload data for all of NRAD including that of its detachments.

Table of Contents

******If any responses are classified, attach a separate classified annex.********

7 April 1994

1. Historical and Projected Workload.

Note: As indicated in the "GENERAL NOTE" found at the front of this data call response, budget and workload data is not routinely available at the Detachment level, hence data for this Section is not provided.

2. Current Class 2 Assets. Complete Tables 2.1 thru 2.6 below as directed. Tables 2.1, 2.2 & 2.3 will define the Class 2 property owned or leased by your activity (less Detachments). Tables 2.4, 2.5 & 2.6 will define the combined Class 2 assets owned or occupied at your Detachment sites which did not receive this Data Call directly. Report space holdings and assignments as of 31 March 1994. Provide numbered notes to explain imminent changes, additions & deletions such as previous BRAC realignments, MILCON (including BRAC related MILCON) & Special Projects that are currently programmed in the FYDP. Give the project number & title, cost, short description, quantity of additional square footage, award date, estimated/actual construction start date and estimated BOD. Square footage of space is to be reported in "Gross Floor/Building Area" (GF/BA) as defined in NAVFAC P-80. Many of the P-80 Category Code Numbers (CCN's) have assets that are reported in units of measure other than square feet (SF). The only unit of measure desired for this Data Call is SF. Only report the assets in each CCN that are normally reported in SF.

For your Site:

a. Use Table 2.1 below to indicate the total amount of Class 2 space at your site for which you are the plant account holder as of 31 March 1994.

b. Use Table 2.2 below to indicate the total amount of your Class 2 space reported in Table 2.1 that is assigned to your tenant commands and/or independent activities at your site as of 31 March 1994.

c. Use Table 2.3 below to indicate the total amount of Class 2 space, for which you are not the plant account holder, but which is utilized/leased by you (less Detachments). Provide numbered notes to identify the title and UIC of the plant account holder/lessor, quantity of leased space and the associated lease cost.

Table 2.1 Main Site Class 2 Assets of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building type	NAVFAC (P-80) category code	Gross Floor/Building Area (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, & Toxics labs	316				
Electrical Equip. labs	317				
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
	Totals				NONE

Note: NCCOSC RDTE DIV DET WARMINSTER will acquire Class 2 assets from NAWC-AD Warminster as a result of implementation of BRAC-91 and BRAC-93 decisions.

d. In accordance with NAVFACINST 11010.44E, an Inadequate facility cannot be made Adequate for its present use through "economically justifiable means". For all the categories above where Inadequate facilities are identified provide the following information: **NONE**

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Table 2.2 Main Site Class 2 Space of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA Assigned (KSF)
Name	UIC		
		Total:	NONE

Table 2.3 Class 2 Space Utilized/Leased by NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100	1			1
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311	21			21
Missile and Space labs	312				
Ship and Marine labs	313	39			39
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317	16			16
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320	18			18
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600	13			13
Housing & Community	700	2			2
Utilities & Grounds	800	3			3
Other					
	Total	113			113

Note: Plant Account Holder: NAVAL AIR WARFARE CENTER, AIRCRAFT DIVISION (UIC N62269)

For your Detachment sites not receiving this Data Call directly:

e. Use Table 2.4 below to indicate the combined total amount of Class 2 space that is occupied by your Detachments for which you are the plant account holder as of 31 March 1994. Attach a list with the titles and UIC's of these Detachments.

f. Use Table 2.5 below to indicate the total amount of your Class 2 space reported in Table 2.4 that is assigned to tenant commands and/or independent activities as of 31 March 1994. Include numbered notes to indicate the Detachment site that hosts the tenant.

g. Use Table 2.6 below to indicate the combined total amount of Class 2 space utilized/leased by your Detachments for which you are not the plant account holder. Provide numbered notes to indicate the quantity of leased space and their associated rental cost.

Table 2.4 Class 2 Assets of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281) Occupied by Detachments

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317				
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
	Totals				NONE

h. In accordance with NAVFACINST 11010.44E, an Inadequate facility cannot be made Adequate for its present use through "economically justifiable means". For all the categories above where Inadequate facilities are identified provide the following information: NONE

Table 2.5 Class 2 Space at Detachment Sites of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA (KSF) Assigned
Name	UIC		
		Total:	NONE

Table 2.6 Class 2 Space Utilized/Leased by Detachments of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317				
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
	Totals				NONE

3. Class 2 Space Available for Expansion. An activity's expansion capability is a function of it's ability to reconfigure and/or expand existing facilities to accept new or increased roles. Such a reconfiguration may require rehabilitation or buildout of a space to support the new or expanded role. A space expansion could include converting an underutilized storage space into laboratory spaces, or buildout of a high bay area into a multifloor office/laboratory space. All questions refer to Class 2 property for which you are the plant account holder as of 31 March 1994. Do not report any currently programmed changes or additions previously reported in question #2 above. Expansion opportunities must follow the guidance of NAVFAC P-80 for the appropriate facility category code, as well as applicable fire and safety codes. Personnel loading density should not exceed those specified in the P-80. Space is only available if it is currently unoccupied or the current occupants are officially designated for relocation. Report space as Net Floor Area (NFA) as defined in the P-80. Do not include opportunities that are being reported by your Detachments who received this Data Call directly. Reported expansion opportunities must be able to accommodate the necessary ancillary facilities and equipment, such as adequate parking space, required to support the amount of people projected.

a. What is the maximum quantity of space that could be made available for expansion to accommodate other functions and/or increased efforts? Report in terms of the "Current NFA" as shown in Tables 3.1 & 3.2. 0

b. How much of the space reported in question 3.a. above is currently available with minimal or no reconfiguration costs? Report in terms of the "Current NFA" as shown in Tables 3.1 & 3.2. 0

c. Use Table 3.1 below to indicate the constrained growth opportunities for accepting expanded or new roles. Constrained growth is defined as growth limited to buildings and structures currently on your Class 2 plant account. Add numbered notes to highlight and explain opportunities that require remediation or waiver of a restriction or encumbrance as part of the expansion. Provide lettered notes to clearly identify each opportunity with the title & UIC of the site it refers to. The "Current NFA (KSF)" column total should match the quantity provided in question #3.a. above. Annotate those opportunities that were used to obtain the answer to question #3.b. above. Report space once, do not use the same space for different expansion opportunities. Include in this table space that will become available once planned downsizing (separate from BRAC realignments) has been completed, provide the estimated completion date of the downsizing effort.
We currently are not the plant account holder.

d. Use Table 3.2 below to indicate additional unconstrained growth opportunities for accepting expanded or new roles. Unconstrained growth allows for construction of new facilities on existing buildable Class 1 property. The only constraint being that the land must currently be on your plant account holdings as of 31 March 1994 and free of existing land use constraints. Limit new buildings to three stories. Add numbered notes to highlight and explain additional opportunities that would require remediation or waiver of a land use constraint as part of the expansion. Provide lettered notes to clearly identify each opportunity with the title & UIC of the site it refers to. Do not include space that has been reported in Table 3.1.

Table 3.1 Constrained Class 2 Space Available for Expansion at NCCOSC RDTE DIV DET WARMINSTER PA(UIC N49281)

Building # / Category Code (3 digit)	Current NFA (KSF)	Additional Capacity Provided By Expansion		Height of High Bay (FT)	Estimated Cost of Rehab ($K's)
		NFA (KSF)	# of Personnel		
NONE					
Totals					

Table 3.2 Unconstrained Class 2 Space Available for Expansion at NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building # / Category Code (3 digit)	Current NFA (KSF)	Additional Capacity Provided By Expansion		Height of High Bay (FT)	Estimated Cost of Rehab ($K's)
		NFA (KSF)	# of Personnel		
NONE					
Totals					

4. Class 1 Space Available for Expansion.

a. Identify in Table 4.1 below the real estate resources which have the potential to facilitate future development, and for which you are the plant account holder as of 31 March 1994, or into which, though a tenant, your activity could reasonably expect to expand. Complete a separate table for each individual site (i.e., main base, outlying airfields, special off-site areas, etc.) and Detachment that did not receive this Data Call directly. The unit of measure is acres. Developed area is defined as land currently with buildings, roads, and utilities where further development is not possible without demolition of existing improvements. Include in "Restricted" acreage that is restricted for future development due to environmental constraints (e.g. wetlands, landfills, archaeological sites), operational restrictions (e.g. ESQD arcs, HERO, HERP, HERF, AICUZ, ranges) or cultural resources restrictions. Identify the reason for the restriction when providing the acreage in the table. Specify any entry in "Other" (e.g. submerged lands).

None

b. Are there any constraints such as parking, utilities, legal restrictions that limit the potential for using Undeveloped land for expansion?

None

c. Explain the radio frequency constraints/opportunities within your Class 1 holdings.

The only radio frequency constraint is that we work within allocations which are ample even allowing for expansion.

Table 4.1 Class 1 Resources of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)
Site Location: WARMINSTER, PA.

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance				
Operational				
Training				
R & D				
Supply & Storage				
Admin				
Housing				
Recreational				
Navy Forestry Program				
Navy Agricultural Outlease Program				
Hunting/Fishing Programs				
Other				
Total:	NONE	NONE	NONE	NONE

d. Of the total Unrestricted Acres reported above, how much of it has existing roads and/or utilities that could support expansion efforts? 0 Acres. Explain.

5. Base Infrastructure Capacity. Provide RESIDUAL base infrastructure data as of 31 March 1994. Provide numbered notes to explain imminent changes, additions & deletions driven by previous BRAC realignments, MILCON (including BRAC related MILCON) & Special Projects that are currently programmed in the FYDP. Give the project number & title, cost, short description, quantity of additional square footage, award date, estimated/actual construction start date and estimated BOD.

a. Utilize Table 5.1 below to provide information on your activity's base infrastructure capacity and load. Do not report this information if you are a tenant activity.

***Table 5.1 Base Infrastructure Capacity & Load**

	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KVA)				
Natural Gas (CFH)				
Sewage (GPD)				
Potable Water (GPD)				
Steam (PSI & lbm/Hr)				
Long Term Parking				
Short Term Parking				
Parking				

* NCCOSC RDTE DIV DET WARMINSTER is a tenant, therefore no data is provided for this table.

b. Maintenance, Repair & Equipment Expenditure Data: Use Table 5.2 below to provide data on facilities and equipment expenditures at your activity. Project expenditures to FY 1997. Do not include data on Detachments who have received this Data Call directly. Do not report this information if you are a tenant activity. The following definitions apply:

Maintenance of Real Property (MRP) Dollars: MRP is a budgetary term used to gather the expenses or budget requirements for facility work including recurring maintenance, major repairs & minor construction (non-MILCON) inclusive of all Major Claimant funded Special Projects. It is the amount of funds spent on or budgeted for maintenance and repair of real property assets to maintain the facility in satisfactory operating condition. For purposes of this Data Call MRP includes all M1/R1 and M2/R2 expenditures.

Current Plant Value (CPV) of Class 2 Real Property: The hypothetical dollar amount to replace a Class 2 facility in kind with today's dollars. Example: the cost today to replace a wood frame barracks with a wood frame barracks.

Acquisition Cost of Equipment (ACE): The total cumulative acquisition cost of all "personal property" equipment maintained at your activity which includes the cost of installed equipment directly related to mission execution, such as lab test equipment. Class 2 installed capital equipment that is an integral part of the facility will not be reported as ACE.

***Table 5.2 Maintenance, Repair & Equipment Expenditure Data for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)**

Fiscal Year	MRP ($M)	CPV ($M)	ACE ($M)
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992			
1993			
1994			
1995			
1996			
1997			

* NCCOSC RDTE DIV DET WARMINSTER is a tenant, therefore no data is provided for this table. .

c. Training Facilities:

(1) By facility Category Code Number (CCN), provide the usage requirements for each course of instruction required for all formal schools on your installation. A formal school is a programmed course of instruction for military and/or civilian personnel that has been formally approved by an authorized authority (ie: Service Schools Command, Weapons Training Battalion, Human Resources Office). Do not include requirements for maintaining unit readiness, GMT, sexual harassment, etc. Include all applicable 171-xx, 179-xx CCN's.

Type of Training Facility/CCN	School	Type of Training	FY 1993 Requirements			FY 2001 Requirements		
			A	B	C	A	B	C
NONE								

A = STUDENTS PER YEAR
B = NUMBER OF HOURS EACH STUDENT SPENDS IN THIS TRAINING FACILITY FOR THE TYPE OF TRAINING RECEIVED
C = A x B
Currently all training is in NAWC spaces. Most training is on a course by course basis. NRAD DET'S graduate navigation course meets in a conference room.

(2) By Category Code Number (CCN), complete the following table for all training facilities aboard the installation. Include all 171-xx and 179-xx CCN's.

For example: in the category 171-10, a type of training facility is academic instruction classroom. If you have 10 classrooms with a capacity of 25 students per room, the design capacity would be 250. If these classrooms are available 8 hours a day for 300 days a year, the capacity in student hours per year would be 600,000.

Type Training Facility/CCN	Total Number	Design Capacity (PN)[1]	Capacity (Student HRS/YR)
NONE			

(3) Describe how the Student HRS/YR value in the preceding table was derived.

There are no formal schools at this site.

[1] Design Capacity (PN) is the total number of seats available for students in spaces used for academic instruction; applied instruction; and seats or positions for operational trainer spaces and training facilities other than buildings, i.e., ranges. Design Capacity (PN) must reflect current use of the facilities.

6. Ship Berthing Capacity. If your activity has the capacity to berth ships fill out the data sheets provided at TAB A.

NONE

7. Operational Airfield Capacity. If your activity owns and operates an operational airfield fill out the data sheets provided at TAB B.

NONE

8. Depot Level Maintenance Capacity. Fill out the data sheets provided at TAB C if you or your subordinate activities perform depot level maintenance on a piece of equipment or system.

NONE

9. Ordnance Storage Capacity. If your activity has the capability to store or maintain weapons and ordnance fill out the data sheets provided at TAB D.

NONE

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Four - NCCOSC RDTE DIV DET WARMINSTER PA

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

NEXT ECHELON LEVEL (if applicable)

J. J. DONEGAN
NAME (Please type or print)

SIGNATURE

Commander
Title

16 May 1994
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

W. H. CANTRELL
NAME (Please type or print)

W. H. Cantrell
Signature

Commander
Title

16 May 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

J. B. Greene, Jr
NAME (Please type or print)

J B Greene Jr
Signature

Acting
Title

20 MAY 1994
Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

10 MAY 94
Date

NCCOSC RDTE DIV
Activity

DATA CALL #4 - CAPABILITY ANALYSIS, NCCOSC RDTE DIV DET WARMINSTER

completely revised

MILITARY VALUE DATA CALL #5

TECHNICAL CENTERS

Category	TECHNICAL CENTER
Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Location/Address	N49281

MILITARY VALUE MEASURES

MISSION

GENERAL NOTE: After implementing a significant reorganization driven by previous BRAC decisions and right sizing, NCCOSC Detachment sites and field offices are no longer functionally independent activities. To achieve greatest efficiency possible, while operating with a smaller work force at multiple field sites, business operations, technical functions, administration and workload have been integrated, and are managed and operated at the Division level. As a result, technical functions and workload data requested by this data call is not routinely available at the individual detachment level and is therefore not included in this data submission. However, data found in the NCCOSC RDTE DIV SAN DIEGO CA response for Data Call Number Five provides integrated techical functions, mission and workload data for itself and its detachments.

1. **Mission Statement.***

2. **Joint Service Missions.***

3. **Technical Functions Resource Allocations.***

4. **Work Breakdown Structure.***

* Note: As indicated in the "GENERAL NOTE" above, technical functions, mission and workload data is not routinely available at the Detachment level, hence data for these Sections is not provided.

5. **Technical Staff Qualifications.**

a. Use Table 5.1 (below) to provide data on the civilian personnel allocated to Technical Operations having the educational and experience levels indicated in the table for your activity. Report data as of 31 March 1994. Similarly, use Table 5.2 (below) to provide data for all your separate detachments or sites that did not receive this data call directly. Consolidate data from all of these detachments into one table (5.2). Provide a list of the detachments whose data is included in Table 5.2.

UIC N49281

Table 5.1, Technical Staff Education Level for
(Activity: NCCOSC RDTE DIV DET WARMINSTER PA) (UIC: N49281)

Highest Degree Attained	Years of Government and/or Military Service					
	Less than 3 Years	3-10 Years	11-15 Years	16-20 Years	More than 20 Years	Total
Grade School	0	0	0	0	0	0
High School	1	11	1	6	16	35
B.A./B.S	0	57	24	14	43	138
M.A./M.S	0	16	12	11	45	84
Ph.D./ M.D.	0	2	2	0	0	4
Total	1	86	39	31	104	261

Table 5.2, Technical Staff Education Level for all Detachments
(Parent Activity: NCCOSC RDTE DIV DET WARMINSTER PA) (UIC:N49281)

Highest Degree Attained	Years of Government and/or Military Service					
	Less than 3 Years	3-10 Years	11-15 Years	16-20 Years	More than 20 Years	Total
Grade School						
High School						
B.A./B.S						
M.A./M.S						
Ph.D./ M.D.						
Total						NONE

b. Use Table 5.3 (below) to provide data on the number of civilian personnel allocated to Technical Operations with graduate degrees and at least three years of applicable experience that have their highest degree in the fields indicated. Report data as of 31 March 1994. Similarly, use Table 5.4 (below) to provide data for all your separate detachments or sites that did not receive this data call directly. Consolidate data from all of these detachments into one table (5.4). Provide a list of the detachments whose data is included in Table 5.4

Table 5.3, Technical Staff Academic Fields for (Activity: NCCOSC RDTE DIV DET WARMINSTER PA) (UIC: N49281)

Academic field	Number
Physics	
Chemistry	
Biology	
Mathematics/Statistics/ Operations Research	1
Engineering	86
Medical	
Dental	
Computer Science	1
Social Science	
Other Science	
Non-Science	
Total	88

Table 5.4, Technical Staff Academic Fields for all Detachments
(Parent Activity: NCCOSC RDTE DIV DET WARMINSTER PA) (UIC: N49281)

Academic field	Number
Physics	
Chemistry	
Biology	
Mathematics/Statistics/ Operations Research	
Engineering	
Medical	
Dental	
Computer Science	
Social Science	
Other Science	
Non-Science	
Total	NONE

c. Are there unique aspects of the activity's location that help or hinder in the hiring of qualified personnel?

Helpful Unique Aspects

- Proximity of many local colleges and availability of CO-OP and Graduate programs.
- Major metropolitan area in middle of Northeast Corridor
- Moderate cost of Living/housing,
- Variety of recreational & cultural activities nearby.
- Rural environment with no rush hour, many good universities in area.
- Proximity to Sponsors, Vendors & Potential Customers.
- Cultural Diversity
- Good job opportunities for spouses.
- Recognized leadership in technology
- Unique facilities - Seismically stable building for testing of inertial sensors.
- Low Crime area

Hinderance Unique Aspects

- None identified.

Subsections 5d through 5o.*

* Note: As indicated in the "GENERAL NOTE" found at the front of this data call response, technical functions, mission and workload data is not routinely available at the Detachment level, hence data for these subsections is not provided.

FACILITIES AND EQUIPMENT

6. **Special Facilities/Equipment Resources.** Include a copy of the form provided at Tab B of this data call for each facility and "major" piece of equipment located at this activity. Include information on separate detachments. The following definitions will apply:

Facilities - Will include such things as rocket firing bays, towing tanks, anechoic chambers, hypervelocity gun ranges, hyperbaric chambers, wind tunnels, simulation/emulation laboratories, etc. Include buildings that are integral to the facility/equipment. Do not include major outdoor ranges or land.

Also, describe modeling and simulation capabilities, hardware in-the-loop facilities and analysis or wargaming capabilities.

Equipment - Resources used to support the operation of the site with a replacement value of $500,000 or greater. Do not include land or buildings in this category. In reporting equipment, provide information to indicate the degree of portability of the equipment. Class 3 Personal Property items ("plant equipment" or "equipment in place") by definition are highly portable and can be moved easily. Some Class 2 Installed Equipment, such as Main-frame computers, test stands and small hyperbaric chambers, require more extensive utilities support and assembly of components, but can be relocated without damage to the facility or equipment, and therefore are considered "moveable" assets. Other Class 2 items are so large and/or integral to the facility that houses them that major demolition and construction would be required to relocate them, and therefore are considered "fixed" assets. Where appropriate, pieces of equipment can be aggregated for the purposes of completing Tab B. **Data provided in TAB B.**

7. General Facilities.

a. Is there any cash revenue generated by this activity? Example: Electricity generated at this activity and sold to the local community. If yes, describe. **No**

b. What MILCON projects are currently programmed to be completed by the end of FY1995? For each project provide:

None.

c. What MILCON projects are currently programmed to be executed/completed after FY1995? For each project provide:

(1) A description of the proposed facility with title and project number.

MILCON Project P-181, "Laboratory Facilities Consolidation" alters and renovates 23,162 SF of space in an existing facility and constructs a new 15,552 SF Research, Development, Testing, and Evaluation (RDT&E) facility required under the base closure and realignment plan submitted by the Defense Base Closure and Realignment Commission in 1991. The project provides critical replacement of facilities for navigation as well as Air Command, Control and Communication RDT&E. Laboratories and facilities included in the this project allow for continuity for a Naval Command, Control and Ocean Surveillance Center leadership role in the development of future submarines, ships and aircraft as well as upgrading the performance of each platform.

(2) The functional support area(s) the new facility will support.

The new facility will support functional support areas,

C3I AIRBORNE
C3I LAND BASED
MULTIPLATFORM COMBAT SYSTEM INTEGRATION
GENERAL MISSION SUPPORT PERSONNEL AND TRAINING
NAVY STRATEGIC SYSTEMS
SURFACE SHIP NAVIGATION SYSTEMS
SUBMARINE NAVIGATION SYSTEMS
AIRCRAFT NAVIGATION SYSTEMS
WEAPONS NAVIGATION SYSTEMS
SENSORS AND SURVEILLANCE SONAR SYSTEMS
SPECIAL SENSORS
GENERIC TECHNOLOGY BASE SOFTWARE
GENERIC TECHNOLOGY BASE COMMUNICATION NETWORKING
GENERIC TECHNOLOGY BASE ELECTRONIC DEVICES

(3) The identified installed equipment to be provided based on the threshold guidance of paragraph 6, page 12, of this data call.

The Simulated Ships Motion Test facility and the RF/Microelectronics laboratory will be installed in the new facility.

(4) The additional square footage this project will provide to the functional support area(s). 32,000 square feet

(5) CWE & planned BOD. CWE is $4.1M, BOD is 31 Mar 1997 per NAVFAC POA&M

d. What is the distance (in miles) to the nearest military airfield and/or pier not located at your site? Describe. Assume all previous BRAC closures have been executed.
NAS WILLOW GROVE IS 6 MILES FROM THIS ACTIVITY

e. How many certified magazines, used for the storage of explosives, does this activity own or control? What is the total explosive weight storage capacity? **None.**

LOCATION

8. **Geographic Location.**

a. Is there an imperative in facility, function or synergy that requires the installation/base/facility to be in its present location? If yes, describe. **YES.**

The geologic conditions in Bucks County are unique. A feasibility study performed by the Kearfott Company in the late 1950's determined that Bucks County was an ideal site for a Navy Inertial Sensor test facility and Simulated Ships Motion Test Facility (SCORSBY) because of its low seismic noise level (10^{-5} to 10^{-6} g's), rare occurrence of seismic disturbances (such as earthquakes) and the proximity of the surface to bedrock. As a result of this study, a unique test facility was built in 1964 consisting of a circular building of approximately 155 feet in diameter with a vibration-isolated domed roof, vibration-isolated walls and floor, and two types of granite piers bonded to the bedrock. This building allows very precise measurement of inertial sensors and has demonstrated performance to a noise floor (vibration) of less than $1x10^{-6}$ g's and a stability of 0.8 arcsec in 40 days. These numbers are typical of performance levels required of submarines. This facility is used to test both Navy inertial sensors as well as industry developed equipment since no similar capability exists in industry. In 1974, the Navy consolidated all of its navigation research at this site, consolidating navigation research and system engineering at one activity. This enables sharing of emerging technology in navigation. Test vehicles exist such as dynamic flight simulators and Ships Motion Simulators (Scorsby's) to perform system level tests on Inertial Systems for all platforms (air, ship and submarine). Synergism occurs by enabling us to test both sensors and systems at the same site. Higher level synergism results from having both Inertial and External navigation reference. (GPS) test capabilities. This site is also the DoD Central Engineering Activity for the Global Positioning Systems (or GPS) User Equipment testing and supports DoD in the testing and integration of GPS on all platforms.

This area has the largest concentration of Universities and college students of any location in the U.S. with over 35 Universities within a commuting distance. In addition, related nationally recognized Centers of Excellence for Information Systems Engineering (Drexel University) and Advanced Communications (Villanova University) exist in the area.

Owing to the unique navigation skills and facilities located at NCCOSC RDTE DIV DET

WARMINSTER PA, a Center for Navigation had been formed to promote Research, Education and Technology Transfer in Navigation. It consists of a consortium of local Universities (University of Pennsylvania, Penn State, Drexel, Wilkes, Villanova, University of Delaware, Rutgers), Industry and the Navy lab. A Masters Degree Course in Navigation Sciences has already been developed with plans to expand the DoD developed navigation sector into non-DoD applications.

Replacement or transfer of the Inertial Navigation Facility, Ship's Motion Simulators and the Dynamic Flight Simulator as well as many other one-of-a-kind facilities with their embedded equipment would prove costly. There are no encroachment problems that hinder performance of the Department's mission.

b. What is the importance of the present location relative to customers supported?

The location of Warminster, PA in the NE corridor provides ready access to Washington, DC and the various East Coast Contractors such as Kearfott, ITT, GTE, Magnavox, Martin Marietta, Westinghouse, etc. This proximity allows quick response to sponsor requests and enables frequent meetings without significant loss of time for travel (i.e., frequent one day trips to Washington, NY, Philadelphia and Boston are possible).

FEATURES AND CAPABILITIES

9. **Computational Facilities.***

10. **Mobilization Responsibility and Capability.***

* Note: As indicated in the "GENERAL NOTE" above, technical functions, mission and workload data is not routinely available at the Detachment level, hence data for these Sections is not provided.

11. **Range Resources.** Include a copy of the form provided at Tab C of this data call for each range located at this activity or operated by this activity. Also, report ranges at detachments and sites not receiving a separate data call. The following definition of a range will apply:

Range - An instrumented or non-instrumented area that utilizes air, land, and/or water space to support test and evaluation, measurements, training and data collection functions, but is not enclosed within a building.

- **There are no ranges located at this site.**

12-23. Quality of Life

NCCOSC RDTE DIV DET WARMINSTER PA is a tenant activity of NAWC-AD Warminster. This small facility has no dedicated MWR assets and as such is not providing independently prepared quality of life data. Please refer to the Military Value data call for NAWC-AD for this data.

TAB B

SPECIAL FACILITIES AND EQUIPMENT

FACILITIES/EQUIPMENT CAPABILITY FORM

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	TEST VAN

1. State the primary purpose(s) of the facility/equipment.

A mobile test bed to develop and test navigation systems both inertial and external (GPS) for all Navy platforms.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Portable-It is a vehicle that can be driven from site to site.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

$500.0K-The van cost approximately $100.0k and the equipment inside the van cost 400.0K.

4. Provide the gross weight and cube of the facility/equipment.

90,000 LBS., 2400FT^3. VAN

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

None

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

None

TAB B
UIC: N49281

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

None, Includes it's own air-conditioning system.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

The van can be driven to other sites. It is a valuable tool in testing the performance of navigation systems.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The van was designed and purchased commercially in 1990 and was driven to the site. Navigation equipment was installed on board at the site.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Submarine Navigation Systems, Aircraft Navigation Systems, Surface Ship Navigation Systems, Weapons Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

10 HOURS PER MONTH

12. Provide the projected utilization data out to FY1997.

10 HOURS PER MONTH

13. What is the approximate number of personnel used to operate the facility/equipment?

2 to 4.

14. What is the approximate number of personnel needed to maintain the equipment?
Less than 1.
15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached.

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	OCEAN SURVEY SYSTEM INTEGRATION LABORATORY

1. State the primary purpose(s) of the facility/equipment.

Development and Integration of state-of-the-art navigation, sonar, and data refinement systems for ocean survey applications in support of the United States and United Kingdom Strategic Weapons Program.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Equipment is considered "Class 2" and therefore is movable equipment.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Value of equipment is approximately $12,500,000.00.

4. Provide the gross weight and cube of the facility/equipment.

Gross weight of equipment is approximately 72,400 lbs and a total volume of approximately 2355 Cubic Feet.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.
115V 400 HZ DELTA POWER.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

Raised deck with cableways.

TAB B
UIC: N49281

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Temperature and humidity must be controlled around the clock.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

Facility/equipment can be located to another site. Site must be approved for processing data up to secret level.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

Facility was established in 1985 and was transported to this site by commercial shipping (trucking).

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Surface Ship Navigation Systems, Navy Strategic Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Equipment utilized continuously over the past five fiscal years in direct support of the United States and United Kingdom Strategic Weapons Programs. Unit of measure was number of people working continually in the laboratory to meet sponsor committments.

12. Provide the projected utilization data out to FY1997.
Projected to be continually used out to FY-1997 and beyond.

13. What is the approximate number of personnel used to operate the facility/equipment?
50 People.

14. What is the approximate number of personnel needed to maintain the equipment?
2 People.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached.

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	HC/KC-130 GPS CDNU SYSTEMS INTEGRATION LABORATORY

1. State the primary purpose(s) of the facility/equipment.

The HC/KC-130 GPS CDNU Systems Integration Laboratory (SIL) is used as a vehicle for developing and testing the system design that will allow for the integration of Global Positioning System (GPS) and Cockpit Display Navigation Unit (CDNU) with the existing HC-130 AND KC-130 aircraft avionics systems.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 3 Pesrsonal Property Items

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

$1,750,000.00

4. Provide the gross weight and cube of the facility/equipment.

GROSS WT IS 2,500 LBS., CUBIC FEET IS 4,500 FT.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Uninterruptable 3-Phase, 115VAC 60/400 HZ and 100 AMP/28 VDC Power Source.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).
None

TAB B
UIC: N49281

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).
Ambient 68 Degrees Fareinheit, 30% Humidity

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

Due to the nature of the interwinding of all electrical interface wiring and wiring bundle runs between components it would be difficult to relocate the facility. All equipment are hardwired together as well as being hardwired to an electrical power distribution panel.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.
The equipment for the facility was obtained essentially one component at a time from various sources via commercial trucking delivery. The equipment was integrated together one component at a time after all equipment interface assemblies were designed and built. This process started in 1992 and modifications have been taking place as needed due to design changes. Two electrical engineers, one electrician and one sheet metal mechanic are responsible for the facility construction.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.
Aircraft Navigation Systems, C3I Airborne.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.
Since it's inception in 1992 it is used constantly 8 hours per day, 5 days per week.

12. Provide the projected utilization data out to FY1997.
FY94-80%, FY95-30%, FY96-30%, FY97-30%.

13. What is the approximate number of personnel used to operate the facility/equipment?
2 electrical engineers.

14. What is the approximate number of personnel needed to maintain the equipment?
2 electrical engineers.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.
None available

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	CH-46 GPS SYSTEM INTEGRATION LABORATORY

1. State the primary purpose(s) of the facility/equipment.
The CH-46 GPS System Integration Laboratory (SIL) is used to develop and test an overall system design which will culminate with the integration of GPS User Equipment (UE) AND various other avionics into the CH-46 helicopter.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.
Class 3 Personal Property Items

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.
$800,000.00

4. Provide the gross weight and cube of the facility/equipment.
Gross wt. is 1000 LBS., Cubic feet is 2,800 ft.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.
Uninterruptable 3-Phase, 115VAC 60/400 HZ and 100 AMP/28 VDC Power Source.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).
None

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient 68 Degrees Fareinheit, 30% Humidity

TAB B
UIC: N49281

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

Relocation of this facility to another site would be possible, although the large size of the equipment rack would present some obstacles.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The equipment for the facility was obtained in a "piece-by-piece" manner from various sources. The equipment was integrated together one component at a time after each of the required cable assemblies were designed and constructed. This integration started in 1993 and modifications have been taking place as needed due to design changes. Two electrical engineers, one electrician and one sheet metal mechanic are responsible for the facility construction.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Aircraft Navigation Systems, C3I Airborne.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Since it's inception in 1993 it is used constantly 8 hours per day, 5 days per week.

12. Provide the projected utilization data out to FY1997.
FY94-100%, FY95-100%, FY96-60%, FY97-50%.

13. What is the approximate number of personnel used to operate the facility/equipment?
2 electrical engineers

14. What is the approximate number of personnel needed to maintain the equipment?
2 electrical engineers

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.
None available

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	CARCO FLIGHT MOTION SIMULATOR

1. State the primary purpose(s) of the facility/equipment.

The purpose of the CARCO FLIGHT MOTION SIMULATOR (CFMS) is to test inertial navigation systems under simulated aircraft angular dynamics. System errors are identified, system performance evaluated, system characterized and system readiness for flight test is evaluated, resulting in lower system test costs.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 2 - fixed.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Equipment replacement is $500,000.00, Facilities modification is $100,000.00.

4. Provide the gross weight and cube of the facility/equipment.

Gross weight is 4000 LBS., Cubic feet is 10,000 ft.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Uninterruptable 115VAC 60/400 HZ and 28 VDC Power Source.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

The CARCO FLIGHT MOTION SIMULATOR requires a seismically stable platform.

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).
Cooling to 68 degrees Farenheit ambient with no more than 20% Humidity and dust free.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

This test facility would be very difficult and expensive to replicate since the base on which the CFMS mounts is directly connected to the underline bedrock structure. This geology is unique to NCCOSC RDTE DIVISION DETACHMENT WARMINSTER. Navy loss of this capability will force greater reliance on contractor testing and greatly increase the cost of inertial avionics performance verification and validation.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The CFMS was transported in seperate sections, the three gimbals, the mount and the control electronics. The base for the CFMS was prepared by pouring a concrete block that extends down to the bedrock structure. The CFMS was then reassembled and calibrated on site.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Aircraft Navigation Systems, C3I Airborne.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.
FY89-50%, FY90-0%, FY91-0%, FY-92-30%, FY93-50%.

12. Provide the projected utilization data out to FY1997.
FY94-30%, FY95-30%, FY96-30%, FY97-30%.

13. What is the approximate number of personnel used to operate the facility/equipment?
1 Hardware engineer, 1Software engineer

14. What is the approximate number of personnel needed to maintain the equipment?
Contract with manufacturer, cost is approximately $15,000.00 per year.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached.

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	INERTIAL COMPONENT TEST LABORATORY

1. State the primary purpose(s) of the facility/equipment.

The purpose of the INERTIAL COMPONENTS TEST LABORATORY is to evaluate the performance related capabilities of inertial components (gyroscopes and accelerometers) in an environment that is free of external influences. Since these components are the prime drivers of inertial navigator performance, determining their performance characteristics is crucial to understanding and improving inertial navigation in the fleet.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

This facility/equipment is CLASS 2: Fixed

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Equipment Replacement: $1,470K
Facilities Modification: $1,000K
Total $2,470K
Building replacement $25,000K

4. Provide the gross weight and cube of the facility/equipment.
Gross Weight: 116 Tons

Operating Area: 24,000 cubic-feet

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

TAB B
UIC: N49281

The special utility support required to operate the INERTIAL COMPONENTS TEST LABORATORY includes uninteruptible, 120/208 volt, 3 phase power for critical equipments and diesel backup power for the remaining equipments.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

The INERTIAL COMPONENTS TEST LABORATORY requires a seismically stable foundation, isolated from local seismic noise inputs. It also requires a source of compressed air and a source of liquid nitrogen for equipment operation. Relocation to another site would necessitate replication of the following:

- Close proximity to bedrock, e.g. below ground level
- Short, squat test piers to avoid reverse pendulum effects
- Lab floor isolated from test piers to reduce effects of foot traffic
- Outer wall & center hub to have vibration isolation material between upper & lower footings to attenuate building generated vibrational disturbances
- Circular building construction & domed roof to minimize building vibrations, wind buffeting and distribute forces generated by solar heating
- Air conditioning ducts, pipe lines & ceilings supported from the roof by a vibration isolation system to attenuate vibration thoughout the facility
- Lighting fixture lenses conductive coated to reduce radiant electrical noise
- Lighting fixture line filters to reduce the conducted electrical noise.
- North star alignment portals to optimize optical alignment of test equipments.
- Power backup for the building.

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient temperature and humidity must be controlled within the normal limits for a state-of-the-art test facility.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

TAB B
UIC: N49281

The test equipment within the INERTIAL COMPONENTS TEST LABORATORY would be relatively easy to relocate. However, the seismic stability of the local bedrock is a key factor to the uniqueness of this facility and replication of this capability would be extremely difficult and costly. The INERTIAL COMPONENTS TEST LABORATORY is the only facility (in government or private sector) in existence with the long-term seismic stability necessary to evaluate high accuracy submarine system inertial components. Loss of the INERTIAL COMPONENTS TEST LABORATORY would seriously impact the Navys ability to conduct R&D of new emerging technologies, evaluate long-term performance of inertial components, provide necessary criteria to do contractor test procedures and would result in the loss of corporate memory and experience, and the benefits of having an independent, unbiased government laboratory.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The building housing the laboratory was constructed after an extensive feasibility study determined the site one of the most seismically stable in the U.S. The building was designed and built to eliminate/attenuate noise and vibration. The test equipment contained in the INERTIAL COMPONENTS TEST LABORATORY was transported to the present site as individual units during the time period 1974 to the present. Disassembly/reassembly has not been required to date. The granite test piers were installed during the initial construction phase; removal will require demolition of the facility.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

The INERTIAL COMPONENTS TEST LABORATORY supports research and development testing of state-of-the-art inertial components and fleet problem resolution related to inertial components in support of Submarine Navigaton Systems, Surface Ship Navigation Systems, Aircraft Navigation Systems, and Weapons Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.
FY89-90%, FY90-90%, FY91-90%, FY92-90%, FY93-90%.

12. Provide the projected utilization data out to FY1997.
FY94-90%, FY95-90%, FY96-90%, FY97-90%.

TAB B
UIC: N49281

13. What is the approximate number of personnel used to operate the facility/equipment?
2 - Research Scientists
4 - Hardware Engineers
1 - Software Engineer
2 - Technicians

14. What is the approximate number of personnel needed to maintain the equipment?
Test equipment/facility maintenance is performed by Operational Personnel. Of the 9 man-years above, 0.5 man-years are spent for maintenance.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached.

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	RF/MICRO-ELECTRONICS LABORATORY

1. State the primary purpose(s) of the facility/equipment.
Develops and prototypes state-of-the-art microelectronic circuitry, and tests miniaturized components and circuits with emphasis on Radio Frequency and Microwave circuitry.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.
Class 2 , Fixed

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.
$3,000,000.00

4. Provide the gross weight and cube of the facility/equipment.
Gross Weight is 30,000 LBS., Cubic feet is 20,000 sq ft.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.
Clean Room Class - 1000
Positive Air Pressure- .06 in. water
Chemical Drains
Sanitary Drain
Domestic Hot Air and Cold Water
Ventilation Exhaust- 175 CFM
Compressed Air- 15 CFM Clean, dry compressed air
Nitrogen Piping within Laboratory

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).
None

TAB B
UIC: N49281

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).
Temperature- 70 degrees Farenheit +/- 2 Degrees Farenheit
Relative Humidity- 40 Degrees +/- 5 Degrees Farenheit

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.
The laboratory is used to support communication and navigation projects at NCCOSC RDT&E DIV DET WARMINSTER. It must be collocated to allow for prototype fabrication of exploratory, advanced and engineering development microelectronic circuitry for ongoing projects and allow for interaction/iterations with project engineers. It allows for the evaluation of advanced concepts for high performance systems and for fabrication of test fixtures and assemblies to allow for government evaluation of contractor integrated circuits, components and microelectronic assemblies.

9. Indicate how and when the facility/equipment was transported and or constructed at the site. The facility was initially constructed on-site in 1964. It has been upgraded to it's present condition on a yearly basis.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.
C31 Airborne, Special Sensors, Generic Technology Base Software, Generic Technology Base Communication Networking, Generic Technology Base Electronic Devices.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.
Equipment utilized continuously over the past five fiscal years in direct support of exploratory, advanced and engineering development projects to meet sponsor committments.

12. Provide the projected utilization data out to FY1997.
Projected to be continually used out to FY97 and beyond.

13. What is the approximate number of personnel used to operate the facility/equipment?
3 people

14. What is the approximate number of personnel needed to maintain the equipment?
1 person

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	SIMULATED SHIPS MOTION TEST FACILITY

1. State the primary purpose(s) of the facility/equipment.

The simulated Ships Motion Test Facility consists primarily of three 3 axis ship motion simulators (Scorsby), including the world's largest precision ship motion simulator (Benton Model 1592), installed in FY93. The facility also contains a number of control/work stations which support the ship motion simulators. These stations control the operation of the simulators, extract the motion data and provides the interface/data recording capability for the navigation systems under test.

The facility is used to evaluate the navigation performance of the NAVY'S marine gyrocompass and inertial navigators. More specifically, the facility is used to:

* Establish a performance database for each gyrocompass/inertial navigation system under test.
* Evaluate and characterize system error models.
* Characterize systems dynamic outputs to user (e.g. Missile Alignment Systems, Combat Systems, etc..)
* Evaluate new system designs and improvements, provide quantitative measurment of improvements.
* Duplicate, investigate and resolve fleet reported problems, isolate problem to user system, inertial navigation system or component (gyro, accelerometer).

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

The Simulated Ships Motion test facility with it's ship motion simulators as defined in paragraph 6 are considered to be a Class 2 fixed asset. Any move would incur significant construction costs (e.g. approximately $1,000,000.00 to move/install ship motion simulators) and would require certain site features (i.e. bedrock close to ground level) not readily available in all parts of the country. A description of the installation and facility requirements

is provided below. The weight of the simulators range from 8 to 15 tons each. They are required for developing and testing ship and submarine gyrocompass and inertial navigation systems and are therefore designed to handle test articles of up to 3,000 lbs.. Each simulator is mounted in a well 20 ft deep, a total of 230 tons of concrete was used to install the three simulators. Each well is attached to bedrock to provide the necessary reference stability and to minimize the effects of vibration on system performance evaluation.

The facility must be located adjacent to a loading dock and must provide for easy forklift access to each of the simulator test stations. A high ceiling (>13ft) and monorail/hoist (4,000 lb. capacity) is required for the installation and removal of test articles. Direct sighting of the North Star is required to provide precise heading reference for the facility. This requires use of an optical tube which must penetrate the outer building wall of the facility.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

The approximate facility cost (exclusive of the building) in today's dollars is $2,500,000.00.

4. Provide the gross weight and cube of the facility/equipment.

The facility occupies 72,000 cu. ft.. The gross weight of the three ship motion simulators is (excluding concrete foundations) and associated control/work stations is approximately 32 tons.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Facility power requirements are:

120V, 400 HZ 3 PHASE DELTA, 1200 AMPS
120/208V, 60 HZ, 3 PHASE "Y", 100 AMPS
277/48V, 60 HZ 3 PHASE "Y", 300 AMPS
120V, 60 HZ, 3 PHASE DELTA, 300 AMPS
120/208V, 60 HZ, 3 PHASE "Y" UNINTERRUPTABLE POWER SUPPLY, 300AMPS

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

Each ship motion simulator must be mounted in a concrete well. Currently, the three simulators are mounted in wells that are 20 ft. deep. A total of 230 tons of concrete was used to install the three simulators. Each well is attached to bedrock to provide the necessary

reference stability and to minimize the effects of vibration on system performance evaluation.

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

The facility must be air conditioned to maintain temperature between 65 degrees and 75 degrees farenheit. Additionally, in order to conduct system performance tests under varying environments, one of the ship motion simulators must be installed in an environmental chamber (temperature/humidity) approximately 27ft long ,30ft wide and 14ft high to allow testing to be performed under varying conditions of temperature (32 to 125 degrees farenheit) and humidity (0-95%).

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

A move would incur significant construction costs (e.g. approximately $1,000,000.00 to move/install ship motion simulators) and would require certain site features (i.e. bedrock close to ground level) not readily available in all parts of the country. A description of the installation and facility requirements is provided below. The weight of the simulators range from 8 to 15 tons each. They are required for developing and testing ship and submarine gyrocompass and inertial navigation systems and are therefore designed to handle test articles of up to 3,000 lbs.. Each simulator is mounted in a well 20 ft deep, a total of 230 tons of concrete was used to install the three simulators. Each well is attached to bedrock to provide the necessary reference stability and to minimize the effects of vibration on system performance evaluation.

The facility must be located adjacent to a loading dock and must provide for easy forklift access to each of the simulator test stations. A high ceiling (>13ft) and monorail/hoist (4,000 lb. capacity) is required for the installation and removal of test articles. Direct sighting of the North Star is required to provide precise heading reference for the facility. This requires use of an optical tube which must penetrate the outer building wall of the facility.

This facility is the only facility, within the DOD or private sector capable of dynamically mesuring marine inertial system attitude performance to current NAVY specifications. The motion simulators have been designed for the development and test of very high ring laser, fiber optic and superconducting technology navigation systems. The newest of these simulators (Benton Model 1592, one of a kind) has the capability (i.e. load capacity, accuracy) to test a full ships navigation set (dual navigation system) and meets all known future NAVY requirements for system performance evaluation.

TAB B
UIC: N49281

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

Each of the three ships motion simulators were shipped by truck in sections and assembled in the Ships Motion Test Facility at NCCOSC RDT&E DIV DET WARMINSTER on specifically designed concrete foundations. Simulator no.1 was installed in 1976, simulator no. 2 was installed in 1985, and simulator no. 3 was installed in 1993. Subsequent to installation, each simulator was aligned to true North and it's performance was certified to meet the specified attitude, accuracy and rate requirements.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Submarine Navigation Systems, Surface Ship Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Simulator no.1 - 98%
Simulator no.2 - 98%

Note: Only 2 of the 3 simulators currently installed in the Simulated Ship Motion Test Facility are addressed. The third simulator was not installed until late 1993 and was not utilized to support testing during period of interest.

The facility utilization was determined by dividing the user time (actual test time) by the facility budgeted capacity (funded test time).

12. Provide the projected utilization data out to FY1997.

FY94 through FY97 projected utilization is 98%.

13. What is the approximate number of personnel used to operate the facility/equipment?

3 test engineers and two technicians.

14. What is the approximate number of personnel needed to maintain the equipment?

2 technicians

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached.

TAB B
UIC: N49281

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	GPS LABORATORY

1. State the primary purpose(s) of the facility/equipment.

Since 1980, NRaD's GPS Laboratory has been DoD's lead laboratory for developing GPS receivers and GPS receiver test tools. The lab reproduces a complete host vehicle environment through a coordinated, real-time simulation of both the GPS satellite signals and host vehicle communications. In this unique development, integration and test and evaluation environment, GPS receiver hardware and software can be exercised dynamically, under precise and repeatable laboratory conditions.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.
Class 2 Installed Equipment, Moveable

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.
Approximately $5,000,000.00

4. Provide the gross weight and cube of the facility/equipment.
10,000 lb. (equipment), 260,000 ft^3

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Halon fire control, T1 telephone lines, 140 amp 3-phase 115 VAC 60, 28 & 5 VDC, power conditioning, uninterruptable power supply

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

Screen room (RF shielding), bonded storage, raised deck, TEMPEST approved building, other security (large equipment safes, COMSEC).

TAB B
UIC: N49281

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient (68 degrees, 30% humidity)

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

NRaD's GPS facilities are unique because of the depth of NRaD's GPS / navigation expertise and experience. On a continuing basis, the lab facilities play a critical role in the following: bid sample testing, proof of concepts, "what if" investigations, and evaluations of GPS receivers for acquisition. Every branch of DoD, the Coast Guard, the FAA, and commercial GPS vendors such as Trimble, Garmin and Aschtect are using the NRaD's capabilities. This laboratory is a critical national asset; it is unique within the government and it can not be replicated.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The GPS laboratory was initiated in the mid 80's with the development of the GPS Satellite Signal Generator and other related GPS test and evaluation equipments. All initial critical laboratory components were developed by NRaD over the next five years (several have evolved into commercial products). Development of new laboratory equipment necessarily continues to keep pace with the rapid advancements characterizing current GPS technology.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

C3I Airborne, Submarine Navigation Systems, Aircraft Navigation Systems, Surface Ship Navigation Systems, Weapons Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Since reaching initial operational capability in 1985, the lab has been used fully 40 hours a week with occasional second shifts or weekend work required.

TAB B
UIC: N49281

12. Provide the projected utilization data out to FY1997.

1994	1995	1996	1997
100%	110%	110%	120%

13. What is the approximate number of personnel used to operate the facility/equipment?
6 full time Engineers

plus contractor support

14. What is the approximate number of personnel needed to maintain the equipment?
6 full time Engineers

plus contractor support

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment. Photo attached.

TAB B
UIC: N49281

BRAC-95 CERTIFICATION

Certified Data: Naval Command, Control and Ocean Surveillance Center, RDT&E Division, Detachment Warminster, PA - BRAC 95 Data Call Number Five

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

MAJOR CLAIMANT LEVEL

W.H. Cantrell
NAME (Please type or print)

W.H. Cantrell
Signature

Commander
Title

17 May 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

J.B. Greene, Jr
NAME (Please type or print)

J.B. Greene Jr
Signature

Acting
Title

24 MAY 1994
Date

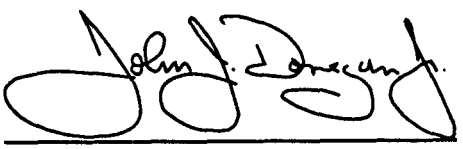
Activity

BRAC-95 CERTIFICATION

Certified Data: Naval Command, Control and Ocean Surveillance Center, RDT&E Division, Detachment Warminster, PA - BRAC 95 Data Call Number Five

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

NEXT ECHELON LEVEL



J. J. DONEGAN
NAME (Please type or print)

SIGNATURE

Commander
Title

17 May 1994
Date

Naval Command, Control and Ocean Surveillance Center
Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

10 MAY 94
Date

NCCOSC RDTE DIV
Activity

DATA CALL #5 - MILITARY VALUE, NCCOSC RDTE DIV DET WARMINSTER

221

Complete Revision

BRAC-95

DATA CALL NUMBER FOUR

Data for

Naval Command, Control and Ocean Surveillance Center, RDT&E Division, Detachment Warminster, PA

CAPACITY ANALYSIS:
DATA CALL #4 WORK SHEET FOR
TECHNICAL CENTER or LABORATORY: Naval Command, Control and Ocean Surveillance Center RDT&E Division Detachment Warminster (NCCOSC RDTE DIV DET WARMINSTER PA)

Table of Contents

******If any responses are classified, attach a separate classified annex.********

7 April 1994

221

DATA CALL 66
INSTALLATION RESOURCES

Activity Information:

Activity Name:	Naval Command, Control and Ocean Surveillance Center, RDT&E Division Detachment, Warminster
UIC:	N49281
Host Activity Name (if response is for a tenant activity):	Naval Air Warfare Center Aircraft Division, Warminster, PA
Host Activity UIC:	N62269

General Instructions/Background. A separate response to this data call must be completed for each Department of the Navy (DON) host, independent and tenant activity which separately budgets BOS costs (regardless of appropriation), and, is located in the United States, its territories or possessions.

1. Base Operating Support (BOS) Cost Data. Data is required which captures the total annual cost of operating and maintaining Department of the Navy (DON) shore installations. Information must reflect FY 1996 budget data supporting the FY 1996 NAVCOMPT Budget Submit. Two tables are provided. Table 1A identifies "Other than DBOF Overhead" BOS costs and Table 1B identifies "DBOF Overhead" BOS costs. These tables must be completed, as appropriate, for all DON host, independent or tenant activities which separately budget BOS costs (regardless of appropriation), and, are located in the United States, its territories or possessions. Responses for DBOF activities may need to include both Table 1A and 1B to ensure that all BOS costs, including those incurred by the activity in support of tenants, are identified. If both table 1A and 1B are submitted for a single DON activity, please ensure that no data is double counted (that is, included on both Table 1A and 1B). The following tables are designed to collect all BOS costs currently budgeted, regardless of appropriation, e.g., Operations and Maintenance, Research and Development, Military Personnel, etc. Data must reflect FY 1996 and should be reported in thousands of dollars.

a. Table 1A - Base Operating Support Costs (Other Than DBOF Overhead). This Table should be completed to identify "Other Than DBOF Overhead" Costs. Display, in the format shown on the table, the O&M, R&D and MPN resources currently budgeted for BOS services. O&M cost data must be consistent with data provided on the BS-1 exhibit. Report only direct funding for the activity. Host activities should not include reimbursable support provided to tenants, since tenants will be separately reporting these costs. Military personnel costs should be included on the appropriate lines of the table. Please ensure that individual lines of the table do not include duplicate costs. Add additional

1. Historical and Projected Workload. Use Tables 1.1, 1.2, 1.3 & 1.4 below to provide historical and currently projected workload data for your activity in terms of funding and workyears. Assume previous BRAC closures and realignments are implemented on schedule. Dollar amounts should be in then-year dollars. Workyears should be separated for in-house government efforts and on-site contractor work.

a. Use Table 1.1 to provide data on your site.

b. Use Table 1.2 to provide data on your Detachments that did not receive this Data Call directly. Compile the information from all of these Detachments into one table. Attach a list of the titles & UIC's of the Detachments included in the table.

c. For FY's 1993 thru 1997 provide a breakout of the "Total Funds Budgeted" line showing the appropriation and amounts of funding budgeted from your major customers. Major resource Sponsors are defined as, but not limited to, all systems commands, ONR, SSPO, CNO, FLT CINCs, Other DON, Other DOD by Department, Other Federal Government, All other. Use Table 1.3 to report this breakout for your site. Use Table 1.4 to report this breakout for your compiled Detachments that did not receive this Data Call directly. Provide separate tables for FY's 1993 thru 1997.

Use the following definitions when providing data for the tables below:

Workyears: Consistent with those used in the preparation of inputs to the President's budget.

In-House government efforts or In-House workyears: Includes both military and civil servant employees

On-Site Contractor workyears: Actual or estimated workyears performed by support contractors with workyears defined consistent with the definition used in the President's budget.

On-site Contractors: Those contractors that occupy space directly on the site on nearly a full time basis.

Total Funds Budgeted: The funds used as inputs to the President's Budget.

Civilian Personnel On-Board: Full Time Permanent employees (FTP).

Table 1.1 Historical and Projected Workload for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Fiscal Year	Total Funds Budgeted ($K)	Total Funds Received w/o Direct Cite ($K)	Direct Cite Funds Received ($K)	Budgeted Wkyrs	Actual In-House Wkyrs	Actual Onsite Contract Wkyrs
86	53800	36400	17400	303	298	12
87	53300	29300	24000	265	263	10
88	45100	27500	17600	278	277	10
89	57200	40900	16300	281	283	14
90	55700	42400	13300	274	283	14
91	63000	46500	16500	281	290	15
92	64100	29800	34300	284	286	10
93	61500	47300	14200	289	277	18
94	67246			291		
95	71437			296		
96	60308			288		
97	55092			292		

Table 1.2 Historical and Projected Workload for Detachments of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Fiscal Year	Total Funds Budgeted ($K)	Total Funds Received w/o Direct Cite ($K)	Direct Cite Funds Received ($K)	Budgeted Wkyrs	Actual In-House Wkyrs	Actual Onsite Contract Wkyrs
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						

Not Applicable.

TABLE 1.3 FY 1993 BREAKOUT OF FUNDS ($K) BUDGETED for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVAIR			3,120	1,160	59		190		985	3,783		600			
NAVSEA				887	245		107		236		883		862		200
SPAWAR				65	13,400		5,200		597		1,382				
ONR/ONT	44	5,840													
NAWCAD	3	2		393	488		205		34	95					1,830
SSPO/U.K.					150				546						2,880
NAVOCEANO									5,420		880				
AIRFORCE								7,322							
OTHER NAVY	111			124	494		344		145						89
OTHER								25							37

TABLE 1.3 FY 1994 BREAKOUT OF FUNDS ($K) BUDGETED for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVAIR			4,264	4,145			390			448		222			
NAVSEA				140	1,127						1,468		3,304		
SPAWAR					11,440		4,290		1,993	450	2,032				
ONR/ONT		4,785						50							
NAWCAD				25	818		287	50	508	60		425		40	550
SSPO/U.K.									850						5,040
NAVOCEANO									4,182		325				
AIRFORCE								9,980							
OTHER NAVY							350	269	160					120	
OTHER								1,545							1,120

TABLE 1.3 FY 1995 BREAKOUT OF FUNDS ($K) BUDGETED for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVAIR			6,000	2,950			390								
NAVSEA					837		300						5,590		
SPAWAR					12,800		5,740		2,605		1,213				
ONR/ONT		5,497													
NAWCAD				176	658		297	75	448			355			450
SSPO/U.K.									1,050						4,610
NAVOCEANO									3,512		200				
AIRFORCE								10,575							
OTHER NAVY							300	150	170						
OTHER								2,855							1,640

TABLE 1.3 FY 1996 BREAKOUT OF FUNDS ($K) BUDGETED for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVAIR			450	200			640								
NAVSEA					145		900						5,640		
SPAWAR					12,980		7,080		2,801		940				
ONR/ONT		6,000													
NAWCAD				150	576			150	378			285			450
SSPO/U.K.									1,050						2,670
NAVOCEANO									3,389		200				
AIRFORCE								10,275							
OTHER NAVY							200	150	170						
OTHER								895							1,550

TABLE 1.3 FY 1997 BREAKOUT OF FUNDS ($K) BUDGETED for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVAIR			500	200			600								
NAVSEA					145		1,250						5,040		
SPAWAR					10,720		6,900		2,913						
ONR/ONT		6,055													
NAWCAD					560				300		215				
SSPO/U.K.									1,050						1,690
NAVOCEANO									3,416		200				
AIRFORCE								9,250							
OTHER NAVY							200	1,100	170						
OTHER								1,025							1,590

TABLE 1.4 FY 1993-1997 BREAKOUT OF FUNDS BUDGETED for DETACHMENTS (UIC N49281)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVAIR															
NAVSEA															
SPAWAR															
ONR/ONT															
NAWCAD															
SSPO/U.K.															
NAVOCEANO															
AIRFORCE															
OTHER NAVY															
OTHER															

Not Applicable.

2. Current Class 2 Assets. Complete Tables 2.1 thru 2.6 below as directed. Tables 2.1, 2.2 & 2.3 will define the Class 2 property owned or leased by your activity (less Detachments). Tables 2.4, 2.5 & 2.6 will define the combined Class 2 assets owned or occupied at your Detachment sites which did not receive this Data Call directly. Report space holdings and assignments as of 31 March 1994. Provide numbered notes to explain imminent changes, additions & deletions such as previous BRAC realignments, MILCON (including BRAC related MILCON) & Special Projects that are currently programmed in the FYDP. Give the project number & title, cost, short description, quantity of additional square footage, award date, estimated/actual construction start date and estimated BOD. Square footage of space is to be reported in "Gross Floor/Building Area" (GF/BA) as defined in NAVFAC P-80. Many of the P-80 Category Code Numbers (CCN's) have assets that are reported in units of measure other than square feet (SF). The only unit of measure desired for this Data Call is SF. Only report the assets in each CCN that are normally reported in SF.

For your Site:

a. Use Table 2.1 below to indicate the total amount of Class 2 space at your site for which you are the plant account holder as of 31 March 1994.

b. Use Table 2.2 below to indicate the total amount of your Class 2 space reported in Table 2.1 that is assigned to your tenant commands and/or independent activities at your site as of 31 March 1994.

c. Use Table 2.3 below to indicate the total amount of Class 2 space, for which you are not the plant account holder, but which is utilized/leased by you (less Detachments). Provide numbered notes to identify the title and UIC of the plant account holder/lessor, quantity of leased space and the associated lease cost.

Table 2.1 Main Site Class 2 Assets of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building type	NAVFAC (P-80) category code	Gross Floor/Building Area (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, & Toxics labs	316				
Electrical Equip. labs	317				
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
	Totals				NONE

Note: NCCOSC RDTE DIV DET WARMINSTER will acquire Class 2 assets from NAWC-AD Warminster as a result of implementation of BRAC-91 and BRAC-93 decisions.

d. In accordance with NAVFACINST 11010.44E, an Inadequate facility cannot be made Adequate for its present use through "economically justifiable means". For all the categories above where Inadequate facilities are identified provide the following information: **NONE**

Table 2.2 Main Site Class 2 Space of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA Assigned (KSF)
Name	UIC		
		Total:	NONE

Table 2.3 Class 2 Space Utilized/Leased by NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100	1			1
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311	21			21
Missile and Space labs	312				
Ship and Marine labs	313	39			39
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317	16			16
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320	18			18
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600	13			13
Housing & Community	700	2			2
Utilities & Grounds	800	3			3
Other					
	Total	113			113

Note: Plant Account Holder: NAVAL AIR WARFARE CENTER, AIRCRAFT DIVISION (UIC N62269)

For your Detachment sites not receiving this Data Call directly:

e. Use Table 2.4 below to indicate the combined total amount of Class 2 space that is occupied by your Detachments for which you are the plant account holder as of 31 March 1994. Attach a list with the titles and UIC's of these Detachments.

f. Use Table 2.5 below to indicate the total amount of your Class 2 space reported in Table 2.4 that is assigned to tenant commands and/or independent activities as of 31 March 1994. Include numbered notes to indicate the Detachment site that hosts the tenant.

g. Use Table 2.6 below to indicate the combined total amount of Class 2 space utilized/leased by your Detachments for which you are not the plant account holder. Provide numbered notes to indicate the quantity of leased space and their associated rental cost.

Table 2.4 Class 2 Assets of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281) Occupied by Detachments

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317				
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
	Totals				NONE

h. In accordance with NAVFACINST 11010.44E, an Inadequate facility cannot be made Adequate for its present use through "economically justifiable means". For all the categories above where Inadequate facilities are identified provide the following information: **NONE**

Table 2.5 Class 2 Space at Detachment Sites of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA (KSF) Assigned
Name	UIC		
		Total:	NONE

Table 2.6 Class 2 Space Utilized/Leased by Detachments of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310				
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317				
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
Totals					NONE

3. Class 2 Space Available for Expansion. An activity's expansion capability is a function of it's ability to reconfigure and/or expand existing facilities to accept new or increased roles. Such a reconfiguration may require rehabilitation or buildout of a space to support the new or expanded role. A space expansion could include converting an underutilized storage space into laboratory spaces, or buildout of a high bay area into a multifloor office/laboratory space. All questions refer to Class 2 property for which you are the plant account holder as of 31 March 1994. Do not report any currently programmed changes or additions previously reported in question #2 above. Expansion opportunities must follow the guidance of NAVFAC P-80 for the appropriate facility category code, as well as applicable fire and safety codes. Personnel loading density should not exceed those specified in the P-80. Space is only available if it is currently unoccupied or the current occupants are officially designated for relocation. Report space as Net Floor Area (NFA) as defined in the P-80. Do not include opportunities that are being reported by your Detachments who received this Data Call directly. Reported expansion opportunities must be able to accommodate the necessary ancillary facilities and equipment, such as adequate parking space, required to support the amount of people projected.

a. What is the maximum quantity of space that could be made available for expansion to accommodate other functions and/or increased efforts? Report in terms of the "Current NFA" as shown in Tables 3.1 & 3.2. 0

b. How much of the space reported in question 3.a. above is currently available with minimal or no reconfiguration costs? Report in terms of the "Current NFA" as shown in Tables 3.1 & 3.2. 0

c. Use Table 3.1 below to indicate the constrained growth opportunities for accepting expanded or new roles. Constrained growth is defined as growth limited to buildings and structures currently on your Class 2 plant account. Add numbered notes to highlight and explain opportunities that require remediation or waiver of a restriction or encumbrance as part of the expansion. Provide lettered notes to clearly identify each opportunity with the title & UIC of the site it refers to. The "Current NFA (KSF)" column total should match the quantity provided in question #3.a. above. Annotate those opportunities that were used to obtain the answer to question #3.b. above. Report space once, do not use the same space for different expansion opportunities. Include in this table space that will become available once planned downsizing (separate from BRAC realignments) has been completed, provide the estimated completion date of the downsizing effort.

We currently are not the plant account holder.

d. Use Table 3.2 below to indicate additional unconstrained growth opportunities for accepting expanded or new roles. Unconstrained growth allows for construction of new facilities on existing buildable Class 1 property. The only constraint being that the land must currently be on your plant account holdings as of 31 March 1994 and free of existing land use constraints. Limit new buildings to three stories. Add numbered notes to highlight and explain additional opportunities that would require remediation or waiver of a land use constraint as part of the expansion. Provide lettered notes to clearly identify each opportunity with the title & UIC of the site it refers to. Do not include space that has been reported in Table 3.1.

Table 3.1 Constrained Class 2 Space Available for Expansion at NCCOSC RDTE DIV DET WARMINSTER PA(UIC N49281)

Building # / Category Code (3 digit)	Current NFA (KSF)	Additional Capacity Provided By Expansion		Height of High Bay (FT)	Estimated Cost of Rehab ($K's)
		NFA (KSF)	# of Personnel		
NONE					
Totals					

Table 3.2 Unconstrained Class 2 Space Available for Expansion at NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)

Building # / Category Code (3 digit)	Current NFA (KSF)	Additional Capacity Provided By Expansion		Height of High Bay (FT)	Estimated Cost of Rehab ($K's)
		NFA (KSF)	# of Personnel		
NONE					
Totals					

4. Class 1 Space Available for Expansion.

a. Identify in Table 4.1 below the real estate resources which have the potential to facilitate future development, and for which you are the plant account holder as of 31 March 1994, or into which, though a tenant, your activity could reasonably expect to expand. Complete a separate table for each individual site (i.e., main base, outlying airfields, special off-site areas, etc.) and Detachment that did not receive this Data Call directly. The unit of measure is acres. Developed area is defined as land currently with buildings, roads, and utilities where further development is not possible without demolition of existing improvements. Include in "Restricted" acreage that is restricted for future development due to environmental constraints (e.g. wetlands, landfills, archaeological sites), operational restrictions (e.g. ESQD arcs, HERO, HERP, HERF, AICUZ, ranges) or cultural resources restrictions. Identify the reason for the restriction when providing the acreage in the table. Specify any entry in "Other" (e.g. submerged lands).

None

b. Are there any constraints such as parking, utilities, legal restrictions that limit the potential for using Undeveloped land for expansion?

None

c. Explain the radio frequency constraints/opportunities within your Class 1 holdings.

The only radio frequency constraint is that we work within allocations which are ample even allowing for expansion.

Table 4.1 Class 1 Resources of NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)
Site Location: WARMINSTER, PA.

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance				
Operational				
Training				
R & D				
Supply & Storage				
Admin				
Housing				
Recreational				
Navy Forestry Program				
Navy Agricultural Outlease Program				
Hunting/Fishing Programs				
Other				
Total:	NONE	NONE	NONE	NONE

d. Of the total Unrestricted Acres reported above, how much of it has existing roads and/or utilities that could support expansion efforts? 0 Acres. Explain.

5. Base Infrastructure Capacity. Provide RESIDUAL base infrastructure data as of 31 March 1994. Provide numbered notes to explain imminent changes, additions & deletions driven by previous BRAC realignments, MILCON (including BRAC related MILCON) & Special Projects that are currently programmed in the FYDP. Give the project number & title, cost, short description, quantity of additional square footage, award date, estimated/actual construction start date and estimated BOD.

a. Utilize Table 5.1 below to provide information on your activity's base infrastructure capacity and load. Do not report this information if you are a tenant activity.

***Table 5.1 Base Infrastructure Capacity & Load**

	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KVA)				
Natural Gas (CFH)				
Sewage (GPD)				
Potable Water (GPD)				
Steam (PSI & lbm/Hr)				
Long Term Parking				
Short Term Parking				
Parking				

* NCCOSC RDTE DIV DET WARMINSTER is a tenant, therefore no data is provided for this table.

b. Maintenance, Repair & Equipment Expenditure Data: Use Table 5.2 below to provide data on facilities and equipment expenditures at your activity. Project expenditures to FY 1997. Do not include data on Detachments who have received this Data Call directly. Do not report this information if you are a tenant activity. The following definitions apply:

Maintenance of Real Property (MRP) Dollars: MRP is a budgetary term used to gather the expenses or budget requirements for facility work including recurring maintenance, major repairs & minor construction (non-MILCON) inclusive of all Major Claimant funded Special Projects. It is the amount of funds spent on or budgeted for maintenance and repair of real property assets to maintain the facility in satisfactory operating condition. For purposes of this Data Call MRP includes all M1/R1 and M2/R2 expenditures.

Current Plant Value (CPV) of Class 2 Real Property: The hypothetical dollar amount to replace a Class 2 facility in kind with today's dollars. Example: the cost today to replace a wood frame barracks with a wood frame barracks.

Acquisition Cost of Equipment (ACE): The total cumulative acquisition cost of all "personal property" equipment maintained at your activity which includes the cost of installed equipment directly related to mission execution, such as lab test equipment. Class 2 installed capital equipment that is an integral part of the facility will not be reported as ACE.

***Table 5.2 Maintenance, Repair & Equipment Expenditure Data for NCCOSC RDTE DIV DET WARMINSTER PA (UIC N49281)**

Fiscal Year	MRP ($M)	CPV ($M)	ACE ($M)
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992			
1993			
1994			
1995			
1996			
1997			

* NCCOSC RDTE DIV DET WARMINSTER is a tenant, therefore no data is provided for this table. .

c. Training Facilities:

(1) By facility Category Code Number (CCN), provide the usage requirements for each course of instruction required for all formal schools on your installation. A formal school is a programmed course of instruction for military and/or civilian personnel that has been formally approved by an authorized authority (ie: Service Schools Command, Weapons Training Battalion, Human Resources Office). Do not include requirements for maintaining unit readiness, GMT, sexual harassment, etc. Include all applicable 171-*xx*, 179-*xx* CCN's.

Type of Training Facility/CCN	School	Type of Training	FY 1993 Requirements			FY 2001 Requirements		
			A	B	C	A	B	C
NONE								

A = STUDENTS PER YEAR
B = NUMBER OF HOURS EACH STUDENT SPENDS IN THIS TRAINING FACILITY FOR THE TYPE OF TRAINING RECEIVED
C = A x B

Currently all training is in NAWC spaces. Most training is on a course by course basis. NCCOSC RDTE DIV DET WARMINSTER PA's graduate navigation course meets in a conference room.

(2) By Category Code Number (CCN), complete the following table for all training facilities aboard the installation. Include all 171-*xx* and 179-*xx* CCN's.

For example: in the category 171-10, a type of training facility is academic instruction classroom. If you have 10 classrooms with a capacity of 25 students per room, the design capacity would be 250. If these classrooms are available 8 hours a day for 300 days a year, the capacity in student hours per year would be 600,000.

Type Training Facility/CCN	Total Number	Design Capacity (PN)[1]	Capacity (Student HRS/YR)
NONE			

(3) Describe how the Student HRS/YR value in the preceding table was derived.

There are no formal schools at this site.

[1] Design Capacity (PN) is the total number of seats available for students in spaces used for academic instruction; applied instruction; and seats or positions for operational trainer spaces and training facilities other than buildings, i.e., ranges. Design Capacity (PN) must reflect current use of the facilities.

6. Ship Berthing Capacity. If your activity has the capacity to berth ships fill out the data sheets provided at TAB A.

NONE

7. Operational Airfield Capacity. If your activity owns and operates an operational airfield fill out the data sheets provided at TAB B.

NONE

8. Depot Level Maintenance Capacity. Fill out the data sheets provided at TAB C if you or your subordinate activities perform depot level maintenance on a piece of equipment or system.

NONE

9. Ordnance Storage Capacity. If your activity has the capability to store or maintain weapons and ordnance fill out the data sheets provided at TAB D.

NONE

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Four - NCCOSC RDTE DIV DET WARMINSTER PA

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

NEXT ECHELON LEVEL (if applicable)

J. J. DONEGAN
NAME (Please type or print)

SIGNATURE

Commander
Title

30 JUNE 1994
Date

Naval Command, Control and Ocean
Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

W. H. CANTRELL
NAME (Please type or print)

W. H. Cantrell
Signature

Commander
Title

22 JULY 1994
Date

Space and Naval Warfare
Systems Command
Activity

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

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

NAME (Please type or print)

Signature

Title

8/4/94
Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

29 June 94
Date

NCCOSC RDTE DIV
Activity

DATA CALL # 4 - CAPACITY ANALYSIS

NCCOSC RDTE DIV DET WARMINSTER PA

221

BRAC-95

DATA CALL NUMBER FIVE

Data for

Naval Command, Control and Ocean Surveillance Center, RDT&E Division, Detachment
Warminster, PA

MILITARY VALUE DATA CALL

TECHNICAL CENTERS

Category	Technical Centers
Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Location/Address	Warminster, PA

MILITARY VALUE MEASURES

MISSION

1. **Mission Statement.** State the officially assigned mission of this activity and cite the reference document(s) that assigns the mission.

- The principal full-spectrum RDT&E Laboratory for navigation sensors and systems for all platforms.

- The principal full-spectrum DoD Laboratory providing RDT&E and life cycle support for the Ocean Survey Systems.

- The principal Navy RDT&E Laboratory for airborne communications equipment and airborne RF electronic devices.

- Supports non-DoD government agencies in the area of navigation and aircraft communications including: the Coast Guard, Federal Aviation Agency (FAA), and National Oceanic and Atmospheric Agency(NOAA).

2. **Joint Service Missions.** State any officially assigned joint/lead service assignments missions and cite the document(s) that assigned them.

- Designated as DoD Central Engineering Activity for the Development and Testing of the Global Positioning System (or GPS) User Equipment. Ref: (1) Joint Service Charter for the Management and Administration of the NAVSTAR GPS Acquisition Program of 25 Feb 1975, (2) Joint Test Agency Memorandum of Understanding, Revision 1, of 1 Sep 1993, defines the GPS User Equipment test and evaluation working relationships and responsibilities between the Space and Missile Systems Center NAVSTAR GPS JPO and USAF 46th Test Group, NRaD, Warminster, USAEPG, NAWC-AD PAX, NISE West and NRL. (3) Memorandum of Understanding of 14 FEB 1994 defines the working relationship and responsibilities regarding GPS technologies between the NAVSTAR GPS Joint Program Office and NRaD, Warminster.

- Design Agent for the Joint Tactical Information Distribution Systems (JTIDS) Joint Service Network Design Aid and principal Navy technical support to the development of both JTIDS and Multi-function Information Distribution System (or MIDS) communication systems. Ref: (1) Memorandum of Agreement for JTIDS Joint Service Network Design Aid Development, Test, Productions and Life Cycle Support of 26 Apr 1991.

- Identified by the Test and Evaluation Reliance Investment Board (TERIB), Board of Operating Directors, representing the Vice Chiefs of the Services, as the principal DoD R&D activity for inertial navigation because of its unique capability to conduct precise ship and submarine tests. {Results are documented in "The Reliance and Investment Board BOD/BOOD chartered study for Inertial Based Navigation Systems" dtd 3 Feb 1994} A Memorandum of Understanding between NRaD and CIGTF, Holloman AFB is being developed to formalize each activity's inertial T&E role.

- Participation in following Reliance committees:

  □ Navigation under subpanel for Avionics in Aircraft Technology - Developed tri-service precision fiber optic gyro technology development plan and a compact stellar navigating system for multiple high-flying aircraft missions.

  □ Aircraft Communications for Avionics in Aircraft Technology JDL Panel - Developed joint Integrated Aircraft Antenna and Covert Communications programs for Navy and Air Force aircraft.

  □ Radio and Links subpanel for C^3 Technology - Developed joint programs in communications, navigation and C^3.

TECHNICAL FUNCTIONS

3. **Technical Functions Resource Allocations.** Appendix A provides a list of numbered functional support areas that cover the spectrum of naval warfare and support operations. Additionally, Appendix A provides a list of numbered life-cycle work areas that cover the "cradle to grave" spectrum of Navy systems acquisition. Utilizing the two lists at Appendix A, each activity will break out its entire FY1993 technical program within any applicable intersections of these two defining schemes (for example, functional support area #5.2 - life cycle work area #3 will identify the activity's level of resources allocated to sensors and surveillance systems, radar systems in advanced development). Definitions for each functional support and life cycle work area are provided in Appendix B for reference.

a. Use the form at Tab A of this data call to provide data on work years and expenditures for FY1993 to support each applicable intersection of functional support areas and life cycle work areas. When necessary, estimate data to the best of your ability

b. Similarly, use the Tab A forms to report separately on your detachments or sites that have not received this data call directly. This data may be consolidated when the detachments or sites perform work in the same area. When necessary, estimate data to the best of your ability.

See Attached Tab A's.

MANPOWER

4. **Work Breakdown Structure.**

a. Use Table 4.1 (below) to provide data on the general support functions at your activity. Report data as of 31 March 1994. If you are collocated with one of your subordinate base keeper commands (i.e., a NAWS or NAS collocated with a NAWC Division), describe the differences in the functions of each and provide a separate Table 4.1 for the subordinate command. Include this command in the Table 4.1 submission for your Activity.

b. Similarly, use Table 4.2 (below) to provide general support function data for all your detachments or sites that did not receive this data call directly. Consolidate data from all of these detachments into one table (4.2). Provide a list of the detachments whose data is included in Table 4.2. For each identified detachment in this list, include its name, location, UIC, and number of civilian and military personnel onboard.

In addition, if any of your detachments or separate sites not receiving an individual data call have over 50 civilian personnel or own technical facilities, provide separately a description of the site, the functions performed there, photographs showing the facilities and state the reason for that site's existence and the necessity for it to be at that location.

c. Use Table 4.3 (below) to provide estimated data, for your activity only, to reflect the anticipated impact of previous BRAC decisions that have not yet been implemented. This data should provide the deltas from Table 4.1.

NOTES:

[1] Use the following definitions when providing data for the tables below:

Workyears: Consistent with those used in the preparation of inputs to the President's budget.

Contract Workyears: Actual or estimated workyears performed by support contractors with workyears defined consistent with the definition used in the President's budget.

Civilian Personnel Onboard: Full Time Permanent (FTP) employees.

[2] Any categories of personnel that are employed to support other Activities should be noted with the name of the additional Activity supported.

Table 4.1, General Support Resources for
(Activity: NRAD WARMINSTER) (UIC: N49281)

Function	Space allocated (Gross SQFT)	Work Years	Civilian Persnel onboard	Contract Work Years	Military Personnel Onboard	
					Off	Enl
ADMINISTRATION						
Command (CO/XO/TD/etc.)						
Comptroller						
Admin						
Human Resources						
OPERATIONS SUPPORT						
Supply Management						
Consolidated Computational Computer Support						
Information Systems and Communications						
Safety/OSH/Environmental						
INFRASTRUCTURE						
Physical Security						
Public Works/Staff Civil Engr						
Fire Protection						
Medical/Dental						
Military Support						
Air/Waterfront Operations						
Other						
TECHNICAL STAFF						
Technical Operations			261	200	4	0
Totals	-0-	-0-	261*	200	4*	-0-

***INCLUDES MINOR SITES IN L.A. (10 CIVILIAN & 2 OFFICERS) AND GEORGIA (3 CIVILIAN & 2 OFFICERS)**

Table 4.2, General Support Resources for all Detachments
(Activity: NRAD WARMINSTER) (UIC: N49281)

Function	Space allocated (Gross SQFT)	Work Years	Civilian Persnel onboard	Contract Work Years	Military Personnel Onboard	
					Off	Enl
ADMINISTRATION						
Command (CO/ XO/ TD/etc.)						
Comptroller						
Admin						
Human Resources						
OPERATIONS SUPPORT						
Supply Management						
Consolidated Computational Computer Support						
Information Systems and Communications						
Safety/OSH/Environmental						
INFRASTRUCTURE						
Physical Security						
Public Works/Staff Civil Engr						
Fire Protection						
Medical/Dental						
Military Support						
Air/Waterfront Operations						
Other						
TECHNICAL STAFF						
Technical Operations						
Totals						NONE

Table 4.3, Previous BRAC Impact to General Support Resources for (Activity: NRAD WARMINSTER) (UIC: N49281)

Function	Space allocated (Gross SQFT)	Work Years	Civilian Persnel onboard	Contract Work Years	Military Personnel Onboard	
					Off	Enl
ADMINISTRATION						
Command (CO/XO/ TD/etc.)						
Comptroller						
Admin						
Human Resources						
OPERATIONS SUPPORT						
Supply Management	2,800			2		
Consolidated Computational Computer Support						
Information Systems and Communications						
Safety/OSH/Environmental						
INFRASTRUCTURE						
Physical Security	200	1	1	7		
Public Works/Staff Civil Engr	150	1	1			
Fire Protection						
Medical/Dental						
Military Support						
Air/Waterfront Operations						
Other						
TECHNICAL STAFF						
Technical Operations			30*	120*		
Totals	3,150	2	32	129		-0-

* These additions are due to billets that will transfer from NCCOSC RDTE DIV DET PHILADELPHIA.

5. **Technical Staff Qualifications.**

a. Use Table 5.1 (below) to provide data on the civilian personnel allocated to Technical Operations having the educational and experience levels indicated in the table for your activity. Report data as of 31 March 1994. Similarly, use Table 5.2 (below) to provide data for all your separate detachments or sites that did not receive this data call directly. Consolidate data from all of these detachments into one table (5.2). Provide a list of the detachments whose data is included in Table 5.2.

Table 5.1, Technical Staff Education Level for
(Activity: NRAD WARMINSTER) (UIC: N49281)

Highest Degree Attained	Years of Government and/or Military Service					
	Less than 3 Years	3-10 Years	11-15 Years	16-20 Years	More than 20 Years	Total
Grade School	0	0	0	0	0	0
High School	1	11	1	6	16	35
B.A./B.S	0	57	24	14	43	138
M.A./M.S	0	16	12	11	45	84
Ph.D./ M.D.	0	2	2	0	0	4
Total	1	86	39	31	104	261

Table 5.2, Technical Staff Education Level for all Detachments
(Parent Activity: NRAD WARMINSTER) (UIC: N49281)

Highest Degree Attained	Years of Government and/or Military Service					
	Less than 3 Years	3-10 Years	11-15 Years	16-20 Years	More than 20 Years	Total
Grade School						
High School						
B.A./B.S						
M.A./M.S						
Ph.D./ M.D.						
Total						NONE

b. Use Table 5.3 (below) to provide data on the number of civilian personnel allocated to Technical Operations with graduate degrees and at least three years of applicable experience that have their highest degree in the fields indicated. Report data as of 31 March 1994. Similarly, use Table 5.4 (below) to provide data for all your separate detachments or sites that did not receive this data call directly. Consolidate data from all of these detachments into one table (5.4). Provide a list of the detachments whose data is included in Table 5.4

Table 5.3, Technical Staff Academic Fields for (Activity: NRAD WARMINSTER) (UIC: N49281)

Academic field	Number
Physics	
Chemistry	
Biology	
Mathematics/Statistics/ Operations Research	1
Engineering	86
Medical	
Dental	
Computer Science	1
Social Science	
Other Science	
Non-Science	
Total	88

Table 5.4, Technical Staff Academic Fields for all Detachments
(Parent Activity: WARMINSTER, PA) (UIC: N49281)

Academic field	Number
Physics	
Chemistry	
Biology	
Mathematics/Statistics/ Operations Research	
Engineering	
Medical	
Dental	
Computer Science	
Social Science	
Other Science	
Non-Science	
Total	NONE

c. Are there unique aspects of the activity's location that help or hinder in the hiring of qualified personnel?

Helpful Unique Aspects

- Proximity of many local colleges and availability of CO-OP and Graduate programs.
- Major metropolitan area in middle of Northeast Corridor
- Moderate cost of Living/housing,
- Variety of recreational & cultural activities nearby.
- Rural environment with no rush hour, many good universities in area.
- Proximity to Sponsors, Vendors & Potential Customers.

- Cultural Diversity
- Good job opportunities for spouses.
- Recognized leadership in technology
- Unique facilities - Seismically stable building for testing of inertial sensors.
- Low Crime area

Hinderance Unique Aspects

- None identified.

Rev

d. List all articles written by the in-house technical staff that were published or accepted for publication in refereed journals since 1 January 1990. R

Eckert, R., "A common Modular Architecture for Embedded GPS Receivers," Proceeding of IEEE Plans 94 Symposium, 15 Apr 1994

Phanos, J., S. Kee, "Technology Option for Tomahawk Block IV GPS-Based Guidance System," Proceeding of ION 50th Annual Meeting, 8 Jun 1994

Minarik, S., "An Adaptive Antenna Environment Emulator - The Wavefront Simulator," Proceedings of IEEE Long Island Section Adaptive Antenna Systems Symposium, Nov 1992

Karwacki, F. "Ginzburg-Landau Computer Simulation of a Superconducting Josephson Junction Gyroscope I: Theory and Numerical Analysis," Application of Physics of Superconductor Journal, Jun 1992

Karwacki, F., "Ginzburg-Landau Computer Simulation of a Supercondicting Josephson Junction Gyroscope II: Ratation-Induced Magnetic and electric Fields," Application of Physics of Superconductor Journal, Jun 1992

Karwacki, F., "Aging and Thermal Cycling Effects in Cuprate Superconductors," Application of Physics of Superconductor Journal, May 1992

Karwacki, F., "Superconducting Josephson Junction Gyroscope," Application of Physics of Superconductor Journal, May 1991

Karwacki, F., "Off Axis RF Sputtering of YBCO Superconducting Thin Film, Fabrication and Investigation of the Effect of Penetration Depth on London Moment," May 1993 Proceeding of Materials Research Society Symposium, Spring 1993

Pettus, W., "AN/SRN-6 Integration on Navy Surface Ships," Proceedings of Institute of Navigation Conference, Sept 1991

Cowley, K., "Navigation Sensor System Interface (NAVOSI)," Proceedings of Institute of Navigation, National Technical Meeting, San Diego, CA, 27-29 Jan 1992

Backman, K., "Strapdown Astro-Inertial Navigation Utilizing the Optical Wide-Angle Lens Startracker," Journal of The Institute of Navigation, Winter 90/91

Moy, G., "Long Duration Strapdown Astro Inertial Aid Navigation using Satellite Tracking," Proceedings of IEEE Position Location and Navigation Symposium, 1992

Nelthropp, D., "Integration of Embedded GPS GPS/Inertial Navigation System on the T-45TS," Proceedings of ION, 18 Sep 1992

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Eckert, R. "A common modular architecture for embedded GPS receivers", Proceeding of IEEE Plans 94 Symposium - 15 Apr 1994

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Karwacki, F. "Ginzburg-Landau Computer Simulation of a Supercondicting Josephson Junction Gyroscope II: Ratation-Induced Magnetic and electric Fields", Published in Applicationof Physics of Superconductor Journal, Jun 1992

Karwacki, F. "Aging and Thermal Cycling Effects in Cuprate Superconductors", Published in Applicationof Physics of Superconductor Journal, May 1992

Karwacki, F. "Superconducting Josephson Junction Gyroscope", Published in Application of Physics of Superconductor Journalm, May 1991

Karwacki, F. "Off axis RF sputtering of YBCO superconducting thin film, fabrication and investigation of the effect of penetration depth on London moment", May 1993 Proceeding of Materials Research Society Symposium Spring 1993

DeFato, J. "Fiber Optic Gyro Development for Navy Shipboard & Aircraft Inertial Reference Applications", Proceeding of DoD Fiber Optics Conference Record pg. 386, 20-23 Mar 1990

Barr, D. "Surface Ship Ring Laser Gyro Navigator", Proceeding of Joint Service Data Exchange - Oct 1992

Pettus, W. "AN/SRN-6 Integration on Navy Surface Ships", Proceedings of Institute of Navigation Conference of Sept 1991

Cowley, K. "Navigation Sensor System Interface (NAVOSI)", Proceedings of Institute of Navigation, National Technical Meeting San Diego, CA 27-29 Jan 1992

Backman, K. "Strapdown Astro-Inertial Navigation Utilizing the Optical Wide-Angle Lens Startracker", Co-Author of paper published in the Journal of The Institute of Navigation, Winter 90/91

Rev.

Marino, A., A. Geneva, "Deep Scattering Layer Investigation Through Multi-Beam Bathymetry," Proceedings of Oceans's 94 Conference, Sept 94 R

Elicker, C., R. Norbert, "Navigation Aids for an Automated Bridge," Proceedings of ION Partnerships for Technology Conversion, Jun 94

Smith, L., M. Dilemmo, G. Bernardin, "Signal Processing Architecture for Bathymetric Sonars," Proceedings of U.S. Hydrographic Conference 94, Vol. 1- Pg. 40, Mar 94

Ambrose, J., J. Satriano, C. Carik, "Advances in Signal Processing for Wide Swath Bathymetric Sonars," Proceedings of U.S. Hydrographic Conference 94, Vol. 1, Pg. 15, Mar 94

Marino, A., M. Dilemmo, L. Smith, "Utilization of Shipboard Transducers to Create Single Ping Three Dimensional Bathymetry," Proceedings of Ocean's 93 Conference, Vol. 2, Pg. 83, Oct 93

Fusillo, L., J. Satriano, "Bottom Classification using Multibeam Sonar Systems," Proceedings of PACON '92, Vol. 1, Pg. 19, Oct 92

Marino, A., "Bathymetric Receiving Array Calibration Experiments using a Remote Deep Ocean Acoustic Pinger & Comparisons with a Short/Sparse Array Configuration," Proceedings of Marine Technology Society '91 Conference, Vol. 2, Pg.734, Nov 91

Satriano, J., G. Bernardin, L. Fusillo, "Ocean Bottom Imagery with Multibeam Sonar Systems," Proceedings of Marine Technology Society '91 Conference, Vol. 2, Pg. 933, Nov 91

Satriano, J., A. Geneva, "Wide Swath Bathymetry from Multibeam Sonar Systems," Proceedings of Ocean's 91 Conference, Vol. 2, Pg.733, Oct 91

Satriano, J., L. Smith, "Signal Processing for Wide Swath Bathymetric Sonars," Proceedings of Ocean's 93 Conference, Vol. 2, Pg. 443, Oct 93

Dunham Steve., J. Kriegsman, "Improved Ship's Navigation Accuracy through Precise Data Reconstruction," Proceedings of IEEE Plans Conference, Vol. 1, Pg. 509, Oct 91

Marino, T., "Bathymetric Receiving Array Calibration Experiments using a Remote Deep Ocean Acoustic Pinger," Proceedings of Ocean's 91 Conference Vol. 1, Pg. 562, Oct 91

Bradley, W., "Evolution of Integrated Navigation for Deep Ocean Surveying," Proceedings of Oceans' 90 Conference, Vol. 1, Pg. 451, Oct 90

Moy, G. "Long Duration Strapdown Astro Inertial Aid Navigation using Satillite Tracking" Proceedings of Plans 1992

Tafel, R. "GPS/CDNU Integration into AC/KC-130 Aircraft", Proceedings of JSDE Oct 1992

Nelthropp, D. "Integration of Embedded GPS GPS/Inertial Navigation System on the T-45TS", Proceedings of ION 18 Sep 1992

Marino, A., A. Geneva "Deep Scattering Layer Investigation Through Multi-Beam Bathymetry", Proceedings of Oceans's 94 Conferefence - Sept 94

Elicker, C., R. Norbert "Navigation Aids for an Automated Bridge", Proceedings of ION Partnerships for Technology Conversion - Jun 94

Smith, L., M. Dilemmo, G. Bernardin "Signal Processing Architecture for Bathymetric Sonars", Proceedings of U.S. Hydrographic Conference 94 Vol. 1- Pg. 40, Mar 94

Ambrose, J., J. Satriano, C. Carik "Advances in Signal Processing for Wide Swath Bathymetric Sonars", Proceedings of U.S. Hydrographic Conference 94 Vol. 1 sixth - Pg. 15, Mar 94

Marino, A., M. Dilemmo, L. Smith "Utilization of Shipboard Transducers to Create Single Ping Three Dimensional Bathymetry", Proceedings of Ocean's 93 Conference Vol. 2 - Pg. 83, Oct 93

Leblang, M., J. Kriegsman "An Integrated Navigation Approach for Ship Track Control", Proceedings of Joint Service Data Exchange for Guidance, Navigation, and Control Conference Vol. 1 - Pg. 350, Oct 92

Fusillo, L., J. Satriano "Bottom Classification using Multibeam Sonar Systems", Proceedings of PACON '92, Vol. 1 fifth - Pg. 19, Oct 92

Shaw, P., B. Brumley "Accurate Velocity Measurement with a Narrowband Doppler Current Profiler", Proceedings of Joint Service Data Exchange for Guidance, Navigation, and Control Conference, Vol. 1 - Pg. 335, Oct 92

Marino, A. "Bathymetric Receiving Array Calibration Experiments using a Remote Deep Ocean Acoustic Pinger & Comparisons with a Short/Sparse Array Configuration", Proceedings of Marine Technology Society '91 Conference, Vol. 2 - Pg.734, Nov 91

Satriano, J., G. Bernardin, L. Fusillo "Ocean Bottom Imagery with Multibeam Sonar Systems", Proceedings of Marine Technology Society '91 Conference, Vol. 2 - Pg. 933, Nov 91

Satriano, J., A. Geneva "Wide Swath Bathymetry from Multibeam Sonar Systems", Proceedings of Ocean's 91 Conference, Vol. 2 - Pg.733, Oct 91

Rev.

Marino, A., "Doppler Sonar Current Profiling & Improved Velocity Logging on Oceanographic Survey Ships," Proceedings of IEEE Conference, Vol. 1, Pg. 52, Mar 90 R

Bradley, W., A. Geneva, "Integrated Satellite Receiver Navigation System for Survey Ships," Proceedings of IEEE Plans Conference, Vol. 1, Pg. 514, Oct 90

Gear, M., P. Tran, "Progress in Developing a GPS Guided Bistatic Ocean Bathymetrlc System," Proceedings of Oceans' 90 Conference, Vol. 1, Pg. 372, Sep 90

Tanju, B., M. May, "On GPS Velocity," 46th Annual Meeting of the ION, New Jersey, pg. 23, Jun 90

Tanju, B., "Integration of Full-Scale Development Aircraft GPS User Equipment (AN-ARN-151 with Doppler Radar Systems," IEEE Position, Location and Navigation Symposium, California, Mar 1992

Tanju, B. K. Nguyen, M. May, "Assessment of Integration Options for GPS Equipped Weapons during Host Vehicle Captive Carriage," 49th Annual Meeting at the ION, California, Jan 1993

Nelthropp, D., B. Tanju, "Test and Evaluation of Embedded GPS Systems," 49th Annual Meeting of the ION, California, Jan 1993

Weinman, N., "Attitude Error Estimation with an Offset GPS Antenna: Concept Validation Testing," Proceedings of ION-GPS-02 Albuquerque, New Mexico, 16-18 Sept 1992

Weinman, N., "An Application of Relative GPS," Proceedings of ION 1994 National Technical Meeting, 24-26 Jan 1994

Schoppe, W., T. Knott, "Test Results of an HF LPI Airborne Communication System," Proceedings of Military Communications Conference IEEE (MILCOM), 14 Oct 1992

Oh, C., "Design and Performance of Markovian Jittered BPSK Waveform," Proceedings of Military Communications Conference IEEE MILCOM 1992, 14 Oct 1992

Oh, C., "Reception of Jittered and Spectrally Shaped Spread Spectrum LPI Waveform," Proceedings of Military Communications Conference (MILCON) 1993, Vol. 1, Pgs. 339-343, 14 Oct 1993

Lake, L., TAMPS & GPS - An Effective Partnership, Journal of the Institute of Navigation, Aug 1993

Pinkard, D., "Combat Survivor Evader Locator (CSEL), A New Method to Locate Survivors," Proceedings of ION Technical Conference, 24 Jan 94

Kee, S., J. Phanos, "Impact of GPS Technology Trends on Weapon System Effectiveness," Proceedings of ION Albuquerque, NM, 16-18 Sept 1992

Satriano, J., L. Smith "Signal Processing for Wide Swath Bathymetric Sonars", Proceedings of Ocean's 93 Conference, Vol. 2 - Pg. 443, Oct 93

Dunham Steve., J. Kriegsman "Improved Ship's Navigation Accuracy through Precise Data Reconstruction", Proceedings of IEEE Plans Conference, Vol. 1 - Pg. 509, Oct 91

Marino, T. "Bathymetric Receiving Array Calibration Experiments using a Remote Deep Ocean Acoustic Pinger", Proceedings of Ocean's 91 Conference Vol. 1 - Pg. 562, Oct 91

Bradley, W. "Evolution of Integrated Navigation for Deep Ocean Surveying", Proceedings of Oceans' 90 Conference, Vol. 1 - Pg. 451, Oct 90

Marino, A. "Doppler Sonar Current Profiling & Improved Velocity Logging on Oceanographic Survey Ships", Proceedings of IEEE Conference, Vol. 1 - Pg. 52, Mar 90

Bradley, W., A. Geneva "Integrated Satellite Receiver Navigation System for Survey Ships", Proceedings of IEEE Plans Conference, Vol. 1 - Pg. 514, Oct 90

Kriegsman, J., M. Leblang "Automatic Ship Steering for Survey Applications", Proceedings of Ninth Ship Control Systems Symposium, Vol. 3 - Pg. 297, Sep 90

Gear, M., P. Tran "Progress in Developing a GPS Guided Bistatic Ocean Bathymetric System.", Proceedings of Oceans' 90 Conference, Vol. 1 - Pg. 372, Sep 90

Becker, LCDR "Mid Air Retrievers" Rotor Review - Summer 1990

Tanju, B., M. May "On GPS Velocity", presented/published at the 46th Annual Meeting of the ION, New Jersey, pg. 23, Jun 90

Tanju, B. "Integration of Full-Scale Development Aircraft GPS User Equipment (AN-ARN-151 with Doppler Radar Systems", presented/published at the IEEE Position, Location and Navigation Symposium, California - Mar 1992

Tanju, B. K. Nguyen, M. May "Assessment of Integration Options for GPS Equipped Weapons during Host Vehicle Captive Carriage", presented/published at the 49th Annual Meeting at the ION, California - Jan 1993

Nelthropp, D., B. Tanju, "Test and Evaluation of Embedded GPS Systems", presented/published at the 49th Annual Meeting of the ION, California - Jan 1993

"Interface Options for Barometric Altitude Aiding of the AN/ARN-151(V) Global Positioning System", NOV 1990

Weinman, N., "Attitude Error Estimation with an Offset GPS Antenna: Concept Validation Testing", Proceedings of ION-GPS-02 Albuquerque, New Mexico - 16-18 Sept 1992

Rev.

Lowenstein, G., J. Phanos, "An Analysis of GPS as the Sole Mean Navigation System on US Navy Aircraft," Proceedings of AGARD Adivisory Group for Aerospace Research and Development, Jun 90 R

May, M., "Measurement of GPS User Equipment Range Accuracy," Position, Location and Navigation Symposium Record, 1990, IEEE Pub CH2811-8

May, M., "Integration of GPS with Doppler Radar Systems," IEEE PLANS Symposium 1992, IEEE Pub CH3085-8

May, M., "INS Alignment Using GPS Phase III User Equipment Computer Corrections," Proceedings of Institute of Navigation, Jan 1991

May, M., "Doppler Radar System Integration with GPS ARN-15," Proceedings of IEEE PLANS Symposium, 1992

May, M., "Testing Differential Using Satellite Signal Generators," Preceedings of ION Symposium, Sept 1994

e. List all technical books and/or chapters written by the in-house technical staff that were published or accepted for publication since 1 January 1990. None

f. Identify any Nobel laureates employed at this activity. None

g. List all non-governmental awards for research or technical excellence given to members of your technical staff since 1 January 1990.

Walter Schoppe: Past Chairman's Award for dedicated service of the Philadelphia Section of the IEEE.

Walter Schoppe: Special Recognition Awards for dedicated and outstanding contributions to the Technical Program of GOMAC - 1991 & 1992

Paul Meisenger: Elected to Honor Society in the Computing Sciences, Upsilon Pi Epsilon Jan 1990.

h. List all governmental awards for research or technical excellence given to members of your technical staff since 1 January 1990.

Robert C. Eckert: Technical Performance Award - Oct 1994.

Phil Franco: Letter of appreciation from Office of the Under Secretary of Defense - 20 Aug 1992.

John Satriano, Anthony Geneva: NRaD Exemplary Awards 1989 - 1993.

Weinman, N. "An Application of Relative GPS", Proceedings of ION 1994 National Technical Meeting 24-26 Jan 1994

Messinger, P., M. May "Testing of a Geomagnetic Navigation System", proceedings of Joint Services Data Exchange Oct 92

Schoppe, W., T. Knott "Test Results of an HF LPI Airborne Communication System", proceedings of Military Communications Conference IEEE (MILCOM) 14 Oct 1992

Oh, C. "Design and Performance of Markovian Jittered BPSK Waveform", Proceedings of Military Communications Conference IEEE MILCOM 1992, 14 Oct 1992

Oh, C. "Reception of Jittered and Spectrally Shaped Spread Spectrum LPI Waveform", proceedings of Military Communications Conference (MILCON) 1993, Vol. 1, Pgs. 339-343, 14 Oct 1993

Lake, L. TAMPS & GPS - An Effective Partnership Journal of the Institute of Navigation Aug 1993

Pinkard, D. "Combat Survivor Evader Locator (CSEL)", a new method to locate survivors, proceedings of ION Technical Conference, 24 Jan 94

Kee, S., J. Phanos "Impact of GPS Technology Trends on Weapon System Effectiveness", - Proceedings of ION Albiquerque, NM 16-18 Sept 1992

Buggy, J., R. Dillingham, S. Kee, J. Phanos, N. Weinman "IVTV Testing of Tomahawk Lock Attach Missile (TLAM) GPS Receiver" proceedings of IEEE Positioning Location and Navigation Symposium - no date given

Lowenstein, G., J. Phanos "An Analysis of GPS as the Sole Mean Navigation System on US Navy Aircraft" proceedings of AGARD Adivisory Group for Aerospace Research and Development, Jun 90

May, M. "Measurement of GPS User Equipment Range Accuracy", Journal: Position, Location and Navigation Symposium Record, 1990, IEEE Pub CH2811-8

May, M. "Integration of GPS with Doppler Radar Systems", Paper at PLANS Symposium 1992 IEEE Pub CH3085-8

May, M. "INS Alignment Using GPS Phase III User Equipment Computer Corrections", Proceedings of Institute of Navigation Jan 1991

May, M. "Using GPS for Velocity Measurement", Proceedings of GPS World, pgs. 59-67, Oct 1992

May, M. "Doppler Radar System Integration with GPS ARN-151" Proceedings of PLANS 1992

Rev.

R

LCDR R. J. Becker: Navy Commendation Medal (Gold Star) - Jan 94.

LCDR R. J. Becker: Navy Commendation Medal - Mar 92.

Joseph Schnecker: Letter of Commendation: PEO Air ASW, Assault and Special Mission Program - NAVAIR PMA-271, dtd 29 Jan 93, for support of the TACAMO/ABNCP Consolidation Feasibility Study.

Joseph Schnecker: Letter of Commendation: PEO Air ASW, Assault and Special Mission Program - NAVAIR PMA-271, dtd 8 Jan 92, in support of feasibility and program cost study to expand TACAMO/ABNCP mission.

Joseph Schnecker: Letter of Commendation: Naval Air Systems Command - NAVAIR PMA-271, dtd 29 Jan 93, for support of the TACAMO/ABNCP Consolidation Feasibility Study.

Dennis Pinkard: Meritorous Service Medal, Feb 91.

May, M. "GPS-INS Integration" Proceedings of GPS World, pgs. 56-66, Sep 1993

May, M. "Testing Differential Using Satellite Signal Generators" preceedings of ION Symposium, Sept 1994

Reports

TLAM Host Vehicle Interface Emulator to UE Test Facility Interface Control Document - AUG 1991

OV-10 Doppler Aided GPS User Equipment Simulation Report GPS-92-AE-036 - Oct 92

Generic MIL-STD-1553 Test Station to UE Test Facility Interface Control Document GPS-94-XM-002 - Apr 94

GPS Receiver-3A DRS Mode Test Report GPS-91-12142-010 - Nov 90

GPS Receiver-3A DRS Mode Integration Guidelines GPS-91-12142B-017 - Feb 91

GPS Receiver-3A DRS Mode Senescence Study GPS-91-12142B-016 - Mar 91

GPS Receiver-3M Velocity Study GPS-91-1122B20-029 - Jul 91

GPS Receiver-3S ECP-179 Test Report GPS-91-1121B24-032 - Aug 91

Cottier, B., J. Misoni, D. Nathans "Dual Frequency Synthesizer Development Final Report", 23 June 1993 (describes in-house design and development of X Band Miniaturized Dual Frequency Synthesizer for Tri-Service Common Data Link)

Bancroft, D., Y. Levy, E. Ressler "Design of a Multichannel UHF Relay Radio", 31 March 1994 (describes in-house design and development of miniaturized high performance multichannel Relay radio)

Processing Techniques for SASS Multibeam Sidescan Imagery, Oct 91

GPS-90-12142-011, "E6-A TACAMO GPS Navigation Tests", May 1990

NAVAIRDEVCEN GPS Receiver-3A DRS Mode Test Report, 26 Nov 1990 GPS-91-1121B25-036

Gravity Position Fixing, NAVAIRDEVCEN Report 40-10, June 1991

NAVAIRDEVCEN GPS Receiver 3A Anti-Jamming Study," 18 Nov 1991 GPS-91-1121B25-036

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Norcott, J., Ocean Survey Program Progress Report No. 21, NAVAIRDEVCEN Report No. NADC-90018-40, 1 Oct 1990

Shostack, B., Ocean Survey Program Progress Report No. 22, NCCOSC RDT&E Division Detachment Technical Document 2281, Apr 1992

Shostack, B., Ocean Survey Program Progress Report No. 23, NCCOSC RDT&E Division Detachment Technical Document 2470, Jan 1993

e. List all technical books and/or chapters written by the in-house technical staff that were published or accepted for publication since 1 January 1990.

PLGR Characterization Test Report (in chop)- 1994

Savage, G., DT/OT RELNAV Test Report - RELNAV Inputs to the DT-IIF Test Report- 6 Aug 1993

Savage, G., JTIDS DT-IIC-2 Relative Navigation Final Test Report - 11 Dec 1992

Savage, G., JTIDS DT-IIE RELNAV Test Report - 17 Apr 92

Savage, G., DT-IIE-2 Relative Navigation Final Test Report - 23 Sept 1992

Savage, G., Relative Navigation Inputs to the DT-IID Test Report - 14 Dec 1990

Host Vehicle Interface Emulator to UE Test Facility Interface Control Document GPS-89-13922-073 - JAN 1990

E-6A TACAMO GPS Navigation Test Report GPS-90-12142-011 - MAY 1990

SWATH Bathymetry and acoustic imagry in littoral regions using a 12 kHz bathymetric system. U.S. Hydrographic Conference - MAR 94.

Cheney, S. NAVSSI: Putting the Battlegroup in context. Joint Services Data Exchange Journal: OCT 1992

Prepared and finalized the following JTIDS documents as Annexes to the Link-16 Standard Operating Procedures (OPNAVINST C3120.43A):

- Command and Control Processor (C2P) Normal Operating and Trouble Shooting Reference Guide for Link-16 Operations -- dtd 12 Aug 1993

- E-2C Normal Operating and Trouble Shooting Reference Guide for Naval Flight Officers -- dtd 12 Aug 1993

- F-14D Normal Operating and Trouble Shooting Reference Guide for Naval Flight Officers -- dtd 12 Aug 1993

- Part III of Link-16 Communications Planning User's Guide dtd 7 Feb 1994

- Multilink Operations Normal Operating and Trouble Shooting Reference Guide for the Antiair Warfare Commander (AAWC), Force Track Coordinator (FTC), and Air Intercept Controller(AIC) -- dtd 15 Feb 1994

Schnecker, J. "Data Communication Integration Design Trade Study" for the TACAMO/ABNCP Feasibility Study -- dtd 30 Sept 1992

Schnecker, J. Cryptographic Devices Design Trade Study for the TACAMO/ABNCP Feasibility Study -- dtd 30 Sept 1992

Schnecker, J. UHF PSK Receiver Integration Design Trade Study for the TACAMO/ABNCP Feasibility Study -- dtd 30 Sept 1992

Schnecker, J. VLF Receive Antenna Chapter for the TACAMO/ABNCP Feasibility Study - dtd 30 Sept 1992

Schnecker, J. Fleet EHF Package Test Plan for the TACAMO E-6A MILSTAR Command Post Terminal -- dtd 31 January 1992

Schnecker, J. Fleet EHF Package Test Procedures for the TACAMO E-6A MILSTAR Command Post Terminal -- dtd 31 January 1992

f. Identify any Nobel laureates employed at this activity. **None**

g. List all non-governmental awards for research or technical excellence given to members of your technical staff since 1 January 1990.

- Past Chairman's Award for dedicated service of the Philadelphia Section of the IEEE.

- Special Recognition Awards for dedicated & outstanding contributions to the Technical Program of GOMAC - 1991 & 1992

- Naval Helicopter Association Pilot of the year - Single Action 1990

- Elected to Honor Society in the Computing Sciences, Upsilon Pi Epsilon, Jan 1990

h. List all governmental awards for research or technical excellence given to members of your technical staff since 1 January 1990.

- Technical Performance Award - Oct 1994
- Letter of appreciation from Office of the Under Secretary of Defense 20 Aug 1992
- NRaD Exemplary Awards 1989 - 1993
- Navy Commendation Medal, (Gold Star) Jan 1994
- Navy Commendation Medal, Mar 1992
- Letter of Commendation: PEO Air ASW, Assault, and Special Mission Program - NAVAIR PMA-271, dtd 29 Jan 1993, for support of the TACAMO/ABNCP Consolidation Feasibility Study
- Letter of Commendation: PEO Air ASW, Assault, and Special Mission Program - NAVAIR PMA-271, dtd 8 Jan 1992, in support of feasibility and program cost study to expand the TACAMO mission
- Letter of Commendation: Naval Air Systems Command - NAVAIR PMA-271; dtd 29 January 1993 for support of the TACAMO/ABNCP Consolidation Feasibility Study

i. List all patents awarded to the in-house technical staff members of this activity since 1 January 1990.

"Josephson Junction Gyroscope", Karwacki, F.
Patent No. 5.058.431

"Multi-Channel Acoustic Simulator", Dilemmo, M.
Patent No. 4,908,800 Mar 13, 1990

"Bistatic System and Method for Ocean Bottom Mapping and Surveying", Gaer, M.
Patent No. 4,924, 448 May 8, 1990

"Doppler Velocity Profiler", Shaw, P.
Patent No. 5,077,700 Dec 31, 1991

"Multiplatform Sonar System and Method for Underwater Surveillance", Gaer, M.
Patent No. 5,231,609 Jul 27, 1993

"Adaptive Filter for the Suppression of Wideband or Offset Narrowband Interference", Miller, J.
Patent No. 5,097,221 14 Apr 1992

j. List all patents applied for by the in-house technical staff members of this activity since 1 January 1990.

"Wavefront Simulator for Evaluating RF Communication Array Signal", Minarik, S. Processors - Navy Case No. 75055 Oct 93

"Quantum well Mirror for a Ring Laser gyroscope", Karwacki, F., Mar 1994

"Circuit Means for Providing Compatibility Between Two Separate Digital Data Interfaces", Michell, J., Case No. 71982

"System and Method for Automatic Ship Steering", Leblang, M., Case No. 73748

"System for Conveniently Providing Road Testing Termination of an AC Power Generator Having at Least One Battery", Morell, B., Case No. 74934

"Ships Attitude Data Converter", Konopelski, P., Case No. 75037

"An Automatic Repeater Station for Signal Transmissions", E. Ressler, Y. Levy, D. Bancroft, Navy Case N0. 72839 16 Aug 91

"Multichannel, Multifunction Relay Radio Architecture", D. Nathans, Navy Case No. 74725 22 Jun 92

k. Identify any in-house staff that are members of the National Academy of Engineering.
None

l. Identify any in-house staff that are members of the National Academy of Sciences.
None

m. How many Cooperative Research and Development Agreements (CRDAs) have been signed by the activity since 1 January 1990?

Rockwell International Cooperation - Mar 1990

Kearfatt Guidance and Navigation - Apr 1993

n. What has been the activity's annual royalty income from CRDAs and patent licenses for each year since 1 January 1990?
None

o. List and describe any major end item prototypes, either product or process technology, developed in-house by the activity that are currently in production and/or are currently in use by the U.S. Armed Forces or by industry. Cite a published reference that documents the work.

GPS PRODUCTS

GPS Marine Platform Systems Integration Designs for A/C, CVS, SSN, CG's: Various Integration Concepts/Studies/ Papers Issued in the 1983-1992 time frame under the auspices of the GPS Program Office.

GPS Receiver Evaluation Techniques/Facilities: Developed GPS performance simulations, receiver test facilities and performance certification criteria. Various Planning, Procedures and Capabilities Documents Issued in the 1983-1992 time frame under the auspices of the GPS Program Office

Differential GPS Evaluation Techniques/Facilities: Papers & Documents describing techniques and capabilities to be issued in 1994

GPS Trainer - PC based software simulations of GPS equipment

GPS Equipment Developed:

J-6114/PSQ Interface Unit, Communication Equipment

This device, referred to as a Global Positioning System Interface Unit (GPSIU), is used by U.S. Marine Corps vehicles and personnel in dynamic assault operations. The GPSIU will extract accurate, real-time position information from a Mil-Spec. GPS Receiver, reformat the data, and transmit the position information to a Position Location Reporting System (PLRS) Basic User Unit (BUU). The BUU will then transmit this information to a PLRS Master Station, allowing the GPSIU equipped units to be used as dynamic reference units. Without the GPSIU, stationary reference units would need to be established for the PLRS to be effective.

GPS Trainer - PC based software simulation of GPS equipment

GPS integration into HC/KC-130 "HC/KC-130 GPS CDNU Integration System"

Satellite Signal Generator & Cryptographic Derivative (as Stel 7200) now being used by Industry.

Currently developing a high Anti-Jam GPS Antenna for use on Naval platforms. Expect to build a prototype by FY96

GPS UE Emulator - (The GPS User Equipment (UE) Emulator, a power tool for GPS/ Platform Integration, Development and Tet) ION 44th Annual Meeting 23 Jun 1988

Laboratory testing of GPS User Equipment at NRaD Warminster has been put into a comprehensive JPS Sponsored Center of Excellence Test Plan for use by industry in the certification of GPS UE by the government.

INERTIAL NAVIGATION PRODUCTS

High Speed Velocity Log (HSVL) on LCAC Vehicles
Ref.: NADC Report NADC-80185-40; Plenum Mounted CW Doppler Radar Operability & performance Demonstration, 20 Aug 1980

WSN-5 WSN-2 "Laboratory Assessment of Litton model EDM-3, S/N 1009A & S/N 1010a Fiber Optic Gyros - 15 Nov 1990 - Published report # NADC-90106-40

AN/WSN-5 Surface Ship Navigation System Developed and Introduced into the Fleet

Navigation Sensor System Interface System in the Fleet - DoD - STD 2167A doc TEMP 190-05; TECHEVAL Report GPS-93-CF-001 16 Oct 1992

Developed unique application Tech Transfer Guidelines
- Developed guidelines for INS & inertial components.
- DoD policy regarding International Transfer and Export Control of Inertial Navigation Systems, Gyroscopes, Accelerometers, other sisters and related technology (DoD Directive 2040.2) 30 Apr 1992

Development and test of the Range/Range LORANS-C Navigation Technique

Development and test of statistical reset techniques for SINS and LORAN-C

Development and test of the AN/BRN-5 LORAN-C sensor

Development and test of the Integrated Tactical Navigation System (ITNS) that integrates INS and TOA radio measurements to perform relative navigation.

Development and Test of the Ring Laser Gyro Navigator

Gravity passive navigation algorithms developed by NRaD are being utilized in real-time demonstrations on Trident II Submarines and the USNS Vanguard

COMMUNICATIONS TECHNOLOGY PRODUCTS

Prototype Technology.

a. Joint Service Network Design Aid (NDA). As the Lead Service Design Agent, NRAD Warminster recently delivered Build 1 of the Joint Service NDA to the Marine Corps, Air Force, Navy and the JTIDS Jointly Project Office for review. The NDA is a JTIDS/Link-16 communications system configuration (network) design tool for fleet operator use. The system was developed in the ADA programming language in accordance with DOD-STD-2167A.

Relevant NDA documents and publications:
System Segment Specification
System Segment Design Document
Software Test Plan
Software Development Plan
Software Requirements Specification
Software Design Document
Build 1 Detailed Design
Build 1 Software Test Description
Build 1 Software User's Manual

b. NDA Graphical User Interface Prototype. As part of the Joint NDA project, a prototype for the Man-Machine Interface was developed for early hands-on review by the Joint Service users. The prototype resolved a lot of early decisions concerning the desired menu screens for the JTIDS Network Design Aid.

Process technology.

a. Link-16 Network Management System. A Four stage process for initializing Link-16 has been developed and fielded. As part of the Initial Operating Capability (IOC) acceptance of JTIDS (Link-16), the Network Management System is being utilized by the COMCRUDESGRU THREE Battle Group. The Four stage process for initializing Link-16 are: network design, communication planning, initialization, and control. Hardware and software systems were developed to support the various stages of the process. The Four Stage NMS process will soon be implemented at a Joint Service and Bi-Lateral (UK) level.

Relevant documents developed: System Specification for the Link-16 Network Management System

b. Link-16 Communications Planning. Stage 2 of the Link-16 Network Management System is called communication planning. The process includes; Network selection for the mission, assign capacity access identifiers, assign Network roles, and produce the OPTASKLINK message instruction for Link-16.

Relevant documents in fleet use:
Link-16 Communications Planning User's Guide
Quick Reference Guide
OPTASKLINK User's Guide (Link-16 Supplement)

Product technology.

a. JTIDS Network Library. As the Navy Network Design Facility, NRAD Warminster designs, develops and distributes the Navy's JTIDS Network Library (JNL). The JNL is currently in use by the COMCRUDESGRU THREE Battle Group for initializing Link-16.

The Networks in the library support mission areas such as; Joint Service AAW Operations, Power Projection, Air Superiority and ASUW.

Relevant documents released to fleet:
Network Description Specification for Networks 01D, 02C, 03C, 04C, 05A, 09, 10, 11.

Provided Fleet Training for LINK-16

JTIDS training documents released to fleet:
- Command and Control Processor (C2P) Normal Operating and Trouble Shooting Reference Guide for Link-16 Operations -- dtd 12 Aug 1993
- E-2C Normal Operating and Trouble Shooting Reference Guide for Naval Flight Officers -- dtd 12 Aug 1993
- F-14D Normal Operating and Trouble Shooting Reference Guide for Naval Flight Officers -- dtd 12 Aug 1993
- Part III of Link-16 Communications Planning User's Guide -- dtd 7 Feb 1994
- Multilink Operations Normal Operating and Trouble Shooting Reference Guide for the Antiair Warfare Commander (AAWC), Force Track Coordinator (FTC), and Air Intercept Controller(AIC) -- dtd 15 Feb 1994

Transceiver System Components developed and in fleet use:
AN/ARC-182 UHF.VHF Radio XMIT/PA
AN/ARC-210 UHF.VHF Radio XMIT/PA and Guard Receiver

Marine Corps Radio Systems released:
Tactical Reconnaissance Sensor System (TRSS)
Counter-intelligence Communication System (CCS).

Landing Craft Air Cushion Vehicle Navigation System DoD/GPS document control facility - Work not published in documents I can reference.

OCEAN SURVEY PROGRAM PRODUCTS

The following in-house, turnkey developments are currently operational aboard Navy's survey ships and documented in the Ocean Survey Program Systems Manual OSP-50, Volume 1 through 4:

SASS Phase IV Multi-Beam Sonar System
Doppler Velocity Profiler System (Patent Awarded)
Multi-Channel Acoustic Simulator (Patent Awarded)
Automatic Track-Keeping System (Patent Pending)
Ships Attitude Data Converter (Patent Pending)
Mission Control and Processing System

FACILITIES AND EQUIPMENT

6. **Special Facilities/Equipment Resources.** Include a copy of the form provided at Tab B of this data call for each facility and "major" piece of equipment located at this activity. Include information on separate detachments. The following definitions will apply:

Facilities - Will include such things as rocket firing bays, towing tanks, anechoic chambers, hypervelocity gun ranges, hyperbaric chambers, wind tunnels, simulation/emulation laboratories, etc. Include buildings that are integral to the facility/equipment. Do not include major outdoor ranges or land.

Also, describe modeling and simulation capabilities, hardware in-the-loop facilities and analysis or wargaming capabilities.

Equipment - Resources used to support the operation of the site with a replacement value of $500,000 or greater. Do not include land or buildings in this category. In reporting equipment, provide information to indicate the degree of portability of the equipment. Class 3 Personal Property items ("plant equipment" or "equipment in place") by definition are highly portable and can be moved easily. Some Class 2 Installed Equipment, such as Main-frame computers, test stands and small hyperbaric chambers, require more extensive utilities support and assembly of components, but can be relocated without damage to the facility or equipment, and therefore are considered "moveable" assets. Other Class 2 items are so large and/or integral to the facility that houses them that major demolition and construction would be required to relocate them, and therefore are considered "fixed" assets. Where appropriate, pieces of equipment can be aggregated for the purposes of completing Tab B.

7. **General Facilities.**

a. Is there any cash revenue generated by this activity? Example: Electricity generated at this activity and sold to the local community. If yes, describe.

No

b. What MILCON projects are currently programmed to be completed by the end of FY1995? For each project provide:

None

(1) A description of the proposed facility with title and project number. Be sure to include the trailing alpha designator for BRACs-88, 91 and 93 realignment projects, i.e., P-xxxR, P-xxxS, P-xxxT .

(2) The functional support area(s) that the new facility will support.

(3) Identify installed equipment to be provided based on the threshold guidance of paragraph 6, page 12, of this data call.

(4) The additional square footage that this project will provide to the functional support area(s).

(5) The current working estimate (CWE) & planned beneficial occupancy date (BOD) of the project.

c. What MILCON projects are currently programmed to be executed/completed after FY1995? For each project provide:

(1) A description of the proposed facility with title and project number.

MILCON Project P-181, "Laboratory Facilities Consolidation" alters and renovates 23,162 SF of space in an existing facility and constructs a new 15,552 SF Research, Development, Testing, and Evaluation (RDT&E) facility required under the base closure and realignment plan submitted by the Defense Base Closure and Realignment Commission in 1991. The project provides critical replacement of facilities for Navigation as well as Air Command, Control and Communication RDT&E. Laboratories and facilities included in the this project allow for continuity for a Naval Command, Control and Ocean Surveillance Center leadership role in the development of future submarines, ships and aircraft as well as upgrading the performance of each platform.

(2) The functional support area(s) the new facility will support.

The new facility will support functional support areas,

C3I AIRBORNE
C3I LAND BASED
MULTIPLATFORM COMBAT SYSTEM INTEGRATION
GENERAL MISSION SUPPORT PERSONNEL AND TRAINING
NAVY STRATEGIC SYSTEMS
SURFACE SHIP NAVIGATION SYSTEMS
SUBMARINE NAVIGATION SYSTEMS
AIRCRAFT NAVIGATION SYSTEMS
WEAPONS NAVIGATION SYSTEMS
SENSORS AND SURVEILLANCE SONAR SYSTEMS
SPECIAL SENSORS
GENERIC TECHNOLOGY BASE SOFTWARE
GENERIC TECHNOLOGY BASE COMMUNICATION NETWORKING
GENERIC TECHNOLOGYBASE ELECTRONIC DEVICES

(3) The identified installed equipment to be provided based on the threshold guidance of paragraph 6, page 12, of this data call.

The Simulated Ships Motion Test facility and the RF/Microelectronics laboratory will be installed in the new facility.

(4) The additional square footage this project will provide to the functional support area(s).

32,000 square feet

(5) CWE & planned BOD.

CWE is $ 4.1M , 31 Mar 1997 is the BOD in the NAVFAC POA&M

d. What is the distance (in miles) to the nearest military airfield and/or pier not located at your site? Describe. Assume all previous BRAC closures have been executed.

NAS WILLOW GROVE IS 6 MILES FROM THIS ACTIVITY

e. How many certified magazines, used for the storage of explosives, does this activity own or control? What is the total explosive weight storage capacity?

None

LOCATION

8. **Geographic Location.**

a. Is there an imperative in facility, function or synergy that requires the installation/base/facility to be in its present location? If yes, describe.

YES

The geologic conditions in Bucks County are unique. A feasibility study performed by the Kearfott Company in the late 1950's determined that Bucks County was an ideal site for a Navy Inertial Sensor test facility and Simulated Ships Motion Test Facility (SCORSBY) because of its low seismic noise level (10^{-5} to 10^{-6} g's), rare occurrence of seismic disturbances (such as earthquakes) and the proximity of the surface to bedrock. As a result of this study, a unique test facility was built in 1964 consisting of a circular building of approximately 155 feet in diameter with a vibration-isolated domed roof, vibration-isolated walls and floor, and two types of granite piers bonded to the bedrock. This building allows very precise measurement of inertial sensors and has demonstrated performance to a noise floor (vibration) of less than $1x10^{-6}$ g's and a stability of 0.8 arc sec in 40 days. These numbers are typical of performance levels required of submarines. This facility is used to test both Navy inertial sensors as well as industry developed equipment since no similar capability exists in industry. In 1974, the Navy consolidated all of its navigation research at this site, consolidating navigation research and system engineering at one activity. This enables sharing of emerging technologies in navigation. Test vehicles exist such as dynamic flight simulators and Ships Motion Simulators (Scorsby's) to perform system level tests on Inertial Systems for all platforms (air, ship and submarine). Synergism occurs by enabling us to test both sensors and systems at the same site. Higher level synergism results from having both Inertial and External navigation reference, Global Positioning Systems (GPS), test capabilities. This site is also the DoD Central Engineering Activity for the Global Positioning Systems (GPS) User Equipment testing and supports DoD in the testing and integration of GPS on all platforms.

This area has the largest concentration of Universities and college students of any location in the U.S. with over 35 Universities within a commuting distance. In addition, related nationally recognized Centers of Excellence for Information Systems Engineering (Drexel University) and Advanced Communications (Villanova University) exist in the area.

Owing to the unique navigation skills and facilities located at NRaD, Warminster, a Center for Navigation had been formed to promote Research, Education and Technology Transfer in Navigation. It consists of a consortium of local Universities (University of Pennsylvanis, Penn State, Drexel, Wilkes, Villanova, University of Delaware, Rutgers), Industry and the Navy lab. A Masters Degree Course in Navigation Sciences has already been developed with plans to expand the DoD developed navigation sector into non-DoD applications.

Replacement or transfer of the Inertial Navigation Facility, Ship's Motion Simulators and the Dynamic Flight Simulator as well as many other one-of-a-kind facilities with their embedded equipment would prove costly. There are no encroachment problems that hinder performance of the Department's mission.

b. What is the importance of the present location relative to customers supported?

The location of Warminster, PA in the NE corridor provides ready access to Washington, DC and the various East Coast Contractors such as Kearfott, ITT, GTE, Magnavox, Martin Marietta, Westinghouse, etc. This proximity allows quick response to sponsor requests and enables frequent meetings without significant loss of time for travel (i.e., frequent one day trips to Washington, NY, Philadelphia and Boston are possible).

FEATURES AND CAPABILITIES

9. **Computational Facilities.**

a. Describe the general and special computational capabilities at this site. Include super computing, parallel computing, distributed computing and networking. Include high-speed data transfer, fiber optic links, microwave links, network interconnectivity and video teleconferencing capabilities. Do not discuss desktops and laptops except as they relate to networking.

The NRaD Warminster Detachment employs a state-of-the-art computer complex and network; connecting most employees to a cluster of local and national computing resources via an ethernet connection. Local processing requirements are supported by 6 VAX type mainframe computers and a number of Sun Workstations. These systems are connected to the NCCOSC, US-wide network consisting of hundreds of computers. Connection among sites is supported by redundant T_1 lines. Nearly all personnel have Personal Computers of the IBM/MacIntosh/NeXT variety. A High Performance Super Computer is available to employees at the San Diego headquarters with plans to ultimately provide direct connection to Warminster.

10. **Mobilization Responsibility and Capability.**

a. Describe any mobilization responsibility officially assigned to this site. Cite the document assigning the responsibility.

This site has no mobiliztion responsibility.

(1) What functional support area(s) does this responsibility support? Refer to Appendix A for the list of functional support areas?

(2) What portion of the work years and dollars, as reported in each applicable functional support area reported in Tab A, are spent solely on maintaining your activity's readiness to execute the mobilization responsibilities?

(3) How many additional personnel (military & civilian) would be assigned to your activity as part of the mobilization responsibility? Include separately any contractor assets that would be added.

b. Does your activity have adequate facilities to support your mobilization responsibilities? (yes/no)

There are mobilization responsibilities.

(1) If yes, is any space assigned for the sole purpose of maintaining mobilization readiness? (yes/no) If yes, list the square footage assigned.

(2) If no, what repairs, renovations and/or additions are required to provide adequate facilities? What is the estimated cost of this work?

(3) Are there any restrictions that would prevent work (noted in paragraph 10.b.(2) above) from taking place (i.e., AICUZ, environmental constraints, HERO, etc.)? If yes, describe.

c. Describe any production facilities that would be activated in case of a future contingency.

None.

d. Is your activity used as a Reserve Unit mobilization and/or training site?

No.

- **There is no mobilization, responsibility officially assigned to this site.**

11. **Range Resources.** Include a copy of the form provided at Tab C of this data call for each range located at this activity or operated by this activity. Also, report ranges at detachments and sites not receiving a separate data call. The following definition of a range will apply:

Range - An instrumented or non-instrumented area that utilizes air, land, and/or water space to support test and evaluation, measurements, training and data collection functions, but is not enclosed within a building.

- **There are no ranges located at this site.**

QUALITY OF LIFE

In 1996 we will become the Plant Account holder of a 45 acre footprint. Some of the following amenities will be within the footprint, the others are available at NAS Willow Grove, PA.

12. **Military Housing**

(a) Family Housing:

(1) Do you have mandatory assignment to on-base housing? (circle) yes no

(2) For military family housing in your locale provide the following information:

Type of Quarters	Number of Bedrooms	Total number of units	Number Adequate	Number Substandard	Number Inadequate
Officer	4+	1	1		
Officer	3	5	5		
Officer	1 or 2	----	----		
Enlisted	4+	50	50		
Enlisted	3	149	149		
Enlisted	1 or 2	----	----		
Mobile Homes		----	----		
Mobile Home lots		----	----		

(3) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

Facility type/code:
What makes it inadequate?
What use is being made of the facility?
What is the cost to upgrade the facility to substandard?
What other use could be made of the facility and at what cost?
Current improvement plans and programmed funding:
Has this facility condition resulted in C3 or C4 designation on your BASEREP?

(4) Complete the following table for the military housing waiting list.

Pay Grade	Number of Bedrooms	Number on List[1]	Average Wait
O-6/7/8/9	1		
	2		
	3		
	4+		
O-4/5	1		
	2		
	3		
	4+		
O-1/2/3/CWO	1		
	2		
	3	10	6 to 12 months
	4+		
E7-E9	1		
	2		
	3	5	3 to 6 months
	4+		
E1-E6	1		
	2		
	3	25	3 to 6 months
	4+		

[1]As of 31 March 1994.

(5) What do you consider to be the top five factors driving the demand for base housing? Does it vary by grade category? If so provide details.

	Top Five Factors Driving the Demand for Base Housing
1	Cost
2	Vacancy rate low
3	Proximity to base
4	Safety, security
5	Less 3 and 4 bedroom housing on market

Lower grades have harder market conditions-lower VHA

(6) What percent of your family housing units have all the amenities required by "The Facility Planning & Design Guide" (Military Handbook 1190 & Military Handbook 1035-Family Housing)?

100%

(7) Provide the utilization rate for family housing for FY 1993.

Type of Quarters	Utilization Rate
Adequate	99%
Substandard	
Inadequate	

(8) As of 31 March 1994, have you experienced much of a change since FY 1993? If so, why? If occupancy is under 98% (or vacancy over 2%), is there a reason?
NO

(b) BEQ: The BEQ will not be available

(1) Provide the utilization rate for BEQs for FY 1993.

Type of Quarters	Utilization Rate
Adequate	N/A
Substandard	N/A
Inadequate	N/A

(2) As of 31 March 1994, have you experienced much of a change since FY 1993? If so, why? If occupancy is under 95% (or vacancy over 5%), is there a reason?

N/A

(3) Calculate the Average on Board (AOB) for geographic bachelors as follows:

$$\text{AOB} = \frac{(\#\ \text{Geographic Bachelors} \times \text{average number of days in barracks})}{365}$$

N/A

(4) Indicate in the following chart the percentage of geographic bachelors (GB) by category of reasons for family separation. Provide comments as necessary.

Reason for Separation from Family	Number of GB	Percent of GB	Comments
Family Commitments (children in school, financial, etc.)			
Spouse Employment (non-military)			
Other			
TOTAL		100	

(5) How many geographic bachelors do not live on base?

NONE

(c) BOQ: There is no BOQ at Warminster. There is a BOQ at NAS Willow Grove.

(1) Provide the utilization rate for BOQs for FY 1993.

Type of Quarters	Utilization Rate
Adequate	N/A
Substandard	N/A
Inadequate	N/A

(2) As of 31 March 1994, have you experienced much of a change since FY 1993? If so, why? If occupancy is under 95% (or vacancy over 5%), is there a reason?

N/A

(3) Calculate the Average on Board (AOB) for geographic bachelors as follows:

$$\text{AOB} = \frac{(\text{\# Geographic Bachelors x average number of days in barracks})}{365}$$

N/A

(4) Indicate in the following chart the percentage of geographic bachelors (GB) by category of reasons for family separation. Provide comments as necessary.

Reason for Separation from Family	Number of GB	Percent of GB	Comments
Family Commitments (children in school, financial, etc.)			
Spouse Employment (non-military)			
Other			
TOTAL		100	

(5) How many geographic bachelors do not live on base?

NONE

(d) BOQ/BEQ Housing and Messing.

(1) Provide data on the BOQs and BEQs assigned to your current plant account. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

NONE

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft

(2) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

(3) Provide data on the BOQs and BEQs projected to be assigned to your plant account in FY 1997. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

NONE

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft

(4) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

(5) Provide data on the messing facilities assigned to your current plant account.

NONE

Facility Type, CCN and Bldg. #	Total Sq. Ft.	Adequate		Substandard		Inadequate		Avg # Noon Meals Served
		Seats	Sq Ft	Seats	Sq Ft	Seats	Sq Ft	

(6) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

(7) Provide data on the messing facilities projected to be assigned to your plant account in FY 1997.

NONE

Facility Type, CCN and Bldg. #	Total Sq. Ft.	Adequate		Substandard		Inadequate		Avg # Noon Meals Served
		Seats	Sq Ft	Seats	Sq Ft	Seats	Sq Ft	

(8) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

13. **MWR Facilities.** For on-base MWR facilities[10] available, complete the following table for each separate location. For off-base government owned or leased recreation facilities indicate distance from base. If there are any facilities not listed, include them at the bottom of the table.

LOCATION Warminster , Pa. DISTANCE 0

Additional facilities available at NAS Willow Grove, Pa.

Facility	Unit of Measure	Total	Profitable (Y,N,N/A)
Auto Hobby	Indoor Bays		
	Outdoor Bays		
Arts/Crafts	SF		
Wood Hobby	SF		
Bowling	Lanes		
Enlisted Club	SF		
Officer's Club	SF		
Library	SF		
Library	Books		
Theater	Seats		
ITT	SF		
Museum/Memorial	SF		
Pool (indoor)	Lanes		
Pool (outdoor)	Lanes		
Beach	LF		
Swimming Ponds	Each		
Tennis CT	Each		

[10]Spaces designed for a particular use. A single building might contain several facilities, each of which should be listed separately.

Facility	Unit of Measure	Total	Profitable (Y,N,N/A)
Volleyball CT (outdoor)	Each	2	N/A
Basketball CT (outdoor)	Each		
Racquetball CT	Each		
Golf Course	Holes		
Driving Range	Tee Boxes		
Gymnasium	SF		
Fitness Center	SF		
Marina	Berths		
Stables	Stalls		
Softball Fld	Each	3	N/A
Football Fld	Each		
Soccer Fld	Each		
Youth Center	SF	2000	N

(a) Is your library part of a regional interlibrary loan program?

YES

14. **Base Family Support Facilities and Programs.**

a. Complete the following table on the availability of child care in a child care center on your base.

Small Wonder Child Development Center at NAS Willow Grove, Pa.

Age Category	Capacity (Children)	SF			Number on Wait List	Average Wait (Days)
		Adequate	Substandard	Inadequate		
0-6 Mos	4	Y			15	365
6-12 Mos	4	Y			15	365
12-24 Mos	20	Y			7	75
24-36 Mos	24	Y			2	75
3-5 Yrs	44	Y			4	75

b. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means." For all the categories above where inadequate facilities are identified provide the following information:

Facility type/code:
What makes it inadequate?
What use is being made of the facility?
What is the cost to upgrade the facility to substandard?
What other use could be made of the facility and at what cost?
Current improvement plans and programmed funding:
Has this facility condition resulted in C3 or C4 designation on your BASEREP?

c. If you have a waiting list, describe what programs or facilities other than those sponsored by your command are available to accommodate those on the list.

"Family Child Care program" NAS Willow Grove and NAWC, resource and referal guide and file of civilian provider's in the area.

d. How many "certified home care providers" are registered at your base?
Family Home Care program provides Child Development Center at NAS Willow Grove (6 to 8 mothers).

e. Are there other military child care facilities within 30 minutes of the base? State owner and capacity (i.e., 60 children, 0-5 yrs).

The Small Wonder Child Development Center at NAS Willow Grove (15 minutes) is NAVY owned and run and accredited by the National Academy of Early Childhood programs. In addition to normal working hours they are also open 3 drill Saturdays per month.

f. Complete the following table for services available on your base. If you have any services not listed, include them at the bottom.

These services are not available at Warminster PA.

Service	Unit of Measure	Qty
Exchange	SF	
Gas Station	SF	
Auto Repair	SF	
Auto Parts Store	SF	
Commissary	SF	
Mini-Mart	SF	
Package Store	SF	
Fast Food Restaurants	Each	
Bank/Credit Union	Each	
Family Service Center	SF	
Laundromat	SF	
Dry Cleaners	Each	
ARC	PN	
Chapel	PN	
FSC Classrm/Auditorium	PN	

15. **Proximity of Closest Major Metropolitan Areas** (provide at least three):

City	Distance (Miles)
Philadelphia	25 MILES
New York	100 MILES
Washington, DC	150 MILES

16. **Standard Rate VHA Data for Cost of Living:**

Paygrade	With Dependents	Without Dependents
E1	247.69	138.58
E2	247.69	155.76
E3	243.15	179.16
E4	244.26	170.47
E5	287.83	200.96
E6	338.36	230.33
E7	352.10	244.59
E8	415.41	314.05
E9	375.93	285.41
W1	411.13	312.23
W2	385.95	302.71
W3	392.06	318.70
W4	404.02	358.22
O1E	367.72	272.96
O2E	364.94	290.96
O3E	414.74	350.87
O1	340.00	250.54
O2	331.00	258.72
O3	398.31	335.35

Paygrade	With Dependents	Without Dependents
E1	247.69	138.58
O4	390.27	339.38
O5	378.55	313.06
O6	353.98	292.99
O7	286.39	232.69

17. **Off-base Housing Rental and Purchase**

(a) Fill in the following table for average rental costs in the area for the period 1 April 1993 through 31 March 1994.

Type Rental	Average Monthly Rent		Average Monthly Utilities Cost
	Annual High	Annual Low	
Efficiency	-----	430	90
Apartment (1-2 Bedroom)	700	560	125
Apartment (3+ Bedroom)	950	700	150
Single Family Home (3 Bedroom)	1200	750	150
Single Family Home (4+ Bedroom)	1300	850	200
Town House (2 Bedroom)	950	700	135
Town House (3+ Bedroom)	1200	750	150
Condominium (2 Bedroom)	850	650	125
Condominium (3+ Bedroom)	----	850	150

(b) What was the rental occupancy rate in the community as of 31 March 1994?

Type Rental	Percent Occupancy Rate
Efficiency	94.5
Apartment (1-2 Bedroom)	93.5
Apartment (3+ Bedroom)	97.4
Single Family Home (3 Bedroom)	95
Single Family Home (4+ Bedroom)	95
Town House (2 Bedroom)	95
Town House (3+ Bedroom)	95
Condominium (2 Bedroom)	95
Condominium (3+ Bedroom)	95

(c) What are the median costs for homes in the area?

Type of Home	Median Cost
Single Family Home (3 Bedroom)	137,400
Single Family Home (4+ Bedroom)	153,700
Town House (2 Bedroom)	110,000
Town House (3+ Bedroom)	130,000
Condominium (2 Bedroom)	75,000
Condominium (3+ Bedroom)	------

(d) For calendar year 1993, from the local MLS listings provide the number of 2, 3, and 4 bedroom homes available for purchase. Use only homes for which monthly payments would be within 90 to 110 percent of the E5 BAQ and VHA for your area.

Month	Number of Bedrooms		
	2	3	4+
January	238	1019	297
February	238	1019	297
March	238	1019	297
April	238	1019	297
May	238	1019	297
June	238	1019	297
July	238	1019	297
August	238	1019	297
September	238	1019	297
October	238	1019	297
November	238	1019	297
December	238	1019	297

Figures represent an average number of homes available in Bucks County only. Average homes in Philadelphia, Montgomery and other neighboring counties were not included. However 40% of the current workforce reside outside Bucks County.

(e) Describe the principle housing cost drivers in your local area.

18. **For the top five sea intensive ratings in the principle warfare community your base supports, provide the following:**

N/A

Rating	Number Sea Billets in the Local Area	Number of Shore billets in the Local Area

19. **Complete the following table for the average one-way commute for the five largest concentrations of military and civilian personnel living off-base.**

Location	% Employees	Distance (mi)	Time(min)
Warminster	16%	2	5
Warrington	8%	6	12
Doylestown	6%	14	25
Richboro	5%	5	10
Newton	3%	10	20

20. **Complete the tables below to indicate the civilian educational opportunities available to service members stationed at the installation (to include any outlying sites) and their dependents:**

(a) List the local educational institutions which offer programs available to dependent children. Indicate the school type (e.g. DODDS, private, public, parochial, etc.), grade level (e.g. pre-school, primary, secondary, etc.), what students with special needs the institution is equipped to handle, cost of enrollment, and for high schools only, the average SAT score of the class that graduated in 1993, and the number of students in that class who enrolled in college in the fall of 1994.

Site is located near major metropolitan area (Bucks and Montgomery counties). Excellent choices exist for a quality education from PRE K through 12th grade, with special education, handicapped, emotionally disturbed and gifted programs available.Vocational/technical schools are also available. Some families prefer private or parochial schools for their children. The average tuition is about $8,400.00 per student for private secondary schools and $5,400.00 per student for private elementary schools.The tuition for high school students in the Archdiocese of Philadelphia Catholic parochial schools is $2,425.00 per student. The Archdiocese operates 28 schools in Bucks County and 52 schools in Montgomery County. There are a similar amount of private schools. There are numerous public school districts, a representative listing follows:

Institution	Type	Grade Level(s)	Special Education Available	Annual Enrollment Cost per Student	1993 Avg SAT/ACT Score	% HS Grad to Higher Educ	Source of Info
Centennial school district	public	K to 12	handicapped /gifted	0	418V 468M	64%	housing referral guide
Council Rock school district	public	K to 12	special ed/ gifted	0	453V 512M	73%	housing referral guide
Wissahickon school district	public	K to 12	special ed/ gifted	0	443V 499M	76%	housing referral guide
Pennsbury school district	public	K to 12	handicapped /gifted	0	428V 488M	77%	housing referral guide

Institution	Type	Grade Level(s)	Special Education Available	Annual Enrollment Cost per Student	1993 Avg SAT/ACT Score	% HS Grad to Higher Educ	Source of Info
Central Bucks school district	public	K to 12	special ed/ gifted	0	479V 513M	75%	housing referral guide
Cheltenham school district	public	K to 12	handicapped /gifted/ special ed	0	458V 517M	80%	housing referral guide
Jenkintown school district	public	K to 12	handicapped /gifted	0	NOT AVAI LABL	82%	housing referral guide
Lower Moreland Township school district	public	K to 12	handicapped /gifted	0	455V 525M	93%	housing referral guide
Abington school district	public	K to 12	handicapped /gifted/ special ed	0	455V 514M	71%	housing referral guide
Hatboro-Horsham school district	public	K to 12	handicapped /gifted/ special ed	0	468V 512M	70%	housing referral guide
North Penn school district	public	K to 12	gifted	0	453V 490M	64%	housing referral guide

(b) List the educational institutions within 30 miles which offer programs off-base available to service members and their adult dependents. Indicate the extent of their programs by placing a "Yes" or "No" in all boxes as applies.

Site is located near a major metropolitan area that has the highest concentration of college students of any location in the U.S. (including Boston), numerous educational opportunities. The public school system offer adult evening classes for both high and vocational/technical. A representative list of public schools can be found in (a). Within the commuting distance there are 35 to 40 institutions of higher learning encompassing community colleges, junior colleges, technical institutes, medical colleges and graduate programs. A representative listing follows:

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
Public School Districts	Day					
	Night	YES	YES			
Bucks County Community College	Day				YES	
	Night				YES	
Delaware Valley College of Science and Agriculture	Day				YES	YES
	Night				YES	YES
Drexel University	Day				YES	YES
	Night				YES	YES

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
LaSalle University	Day				YES	YES
	Night				YES	YES
Lehigh	Day				YES	YES
	Night				YES	YES
Montgomery County Community College	Day				YES	
	Night				YES	
Penn State University Ogantz and Great Valley Campus	Day				YES	YES
	Night				YES	YES
Saint Joseph's	Day				YES	YES
	Night				YES	YES
Swarthmore	Day				YES	
	Night				YES	

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
Temple University	Day				YES	YES
	Night				YES	YES
Villanova University	Day				YES	YES
	Night				YES	YES
West Chester University	Day				YES	YES
	Night				YES	YES
Ursinus University	Day				YES	YES
	Night				YES	YES

(c) List the educational institutions which offer programs on-base available to service members and their adult dependents. Indicate the extent of their programs by placing a "Yes" or "No" in all boxes as applies.

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
Drexel University	Day					YES
	Night					YES
	Corres-pondence					
Penn State University	Day					YES
	Night					YES
	Corres-pondence					

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
Drexel University	Day					YES
	Night					YES
Bucks County Community College	Day				YES	
	Night				YES	
	Corres-pondence					
Wilkes University	Day					YES
	Night					YES
	Corres-pondence					
National Technology University	Day					YES
	Night					
	Corres-pondence					

21. **Spousal Employment Opportunities.**

Provide the following data on spousal employment opportunities.

N/A

Skill Level	Number of Military Spouses Serviced by Family Service Center Spouse Employment Assistance			Local Community Unemployment Rate
	1991	1992	1993	
Professional				
Manufacturing				
Clerical				
Service				
Other				

22. **Medical/Dental.**

a. Do your active duty personnel have any difficulty with access to medical or dental care, in either the military or civilian health care system? Develop the why of your response.

Champus Medical plan and Delta Dental programs are both available to military, and local doctors and dentists accept them.

b. Do your military dependents have any difficulty with access to medical or dental care, in either the military or civilian health care system? Develop the why of your response.

Champus Medical plan and Delta Dental programs are both available to military dependants, and local doctors and dentists accept them.

Rev.

23. **Crime Rate**

R

CRIME RATE PER 100,000 POPULATION

	1993
VIOLENT CRIME	47
PROPERTY	61
DRUG CRIME	150

Note: This data represents Buck's County, PA and was provided by Bucks County District Attorney's Office.

23 **Crime Rate.** Complete the table below to indicate the crime rate for your air station for the last three fiscal years. The source for case category definitions to be used in responding to this question are found in NCIS - Manual dated 23 February 1989, at Appendix A, entitled "Case Category Definitions." Note: the crimes reported in this table should include 1) all reported criminal activity which occurred on base regardless of whether the subject or the victim of that activity was assigned to or worked at the base; and 2) all reported criminal activity off base.

Crime Definitions	FY 1991	FY 1992	FY 1993
1. Arson (6A)	4	7	4
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	4	7	4
2. Blackmarket (6C)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
3. Counterfeiting (6G)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
4. Postal (6L)	0	0	1
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	1
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
5. Customs (6M)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
6. Burglary (6N)	174	217	141
Base Personnel - military	0	0	1
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	174	217	140
7. Larceny - Ordnance (6R)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
8. Larceny - Government (6S)	31	25	34
Base Personnel - military	5	6	8
Base Personnel - civilian	26	19	26
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
9. Larceny - Personal (6T)	251	189	211
Base Personnel - military	15	20	8
Base Personnel - civilian	20	11	5
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	216	158	198
10. Wrongful Destruction (6U)	250	206	199
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	250	206	199
11. Larceny - Vehicle (6V)	85	124	63
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	85	124	63
12. Bomb Threat (7B)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
13. Extortion (7E)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
14. Assault (7G)	129	101	113
Base Personnel - military	2	1	1
Base Personnel - civilian	10	9	3
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	117	91	109
15. Death (7H)	23	23	22
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	23	23	22
16. Kidnapping (7K)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
18. Narcotics (7N)	28	109	109
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	28	109	108
19. Perjury (7P)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
20. Robbery (7R)	13	9	10
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	13	9	10
21. Traffic Accident (7T)	437	413	384
Base Personnel - military	3	4	3
Base Personnel - civilian	30	25	8
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	404	384	373

Crime Definitions	FY 1991	FY 1992	FY 1993
22. Sex Abuse - Child (8B)	5	3	2
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	5	3	2
23. Indecent Assault (8D)	12	23	25
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	12	23	25
24. Rape (8F)	12	11	13
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	12	11	13
25. Sodomy (8G)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

TAB A

TECHNICAL OPERATIONS

FUNCTIONAL SUPPORT AREA - LIFE CYCLE WORK AREA FORM

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	3.4 Multiplatform Combat System Integration
Life Cycle Work Area	6. Op. Systems Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 15.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 2398.9

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 1350.8

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 1159.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	5.1 Sensors & Surveillance Systems - Sonar
Life Cycle Work Area	3. Advanced Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 3.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 480.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 258.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 2100

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	5.3 Sensors & Surveillance Systems - Special
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 3.3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 467.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 873.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.1 Navigation - Submarine Navigation Systems
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 4.2 WY's

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 625.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.1 Navigation - Submarine Navigation Systems
Life Cycle Work Area	8. Acceptance Testing

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 1.7 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 242

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.1 Navigation - Submarine Navigation Systems
Life Cycle Work Area	9. Modernization

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 1.7 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 237.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.1 Navigation - Submarine Navigation Systems
Life Cycle Work Area	10. Program Support (Acquisition)

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .6 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 88.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.1 Navigation - Submarine Navigation Systems
Life Cycle Work Area	15. Program Support (Life-Time)

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 6.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 959.0

b. **Out-of-House Expenditures**. Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.2 Navigation - Aircraft Navigation Systems
Life Cycle Work Area	3. Advanced Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 134.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 16.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.2 Navigation - Aircraft Navigation Systems
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 29.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 4354.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 3841.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 4341.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.2 Navigation - Aircraft Navigation Systems
Life Cycle Work Area	7. Production

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 8.4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 1327.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 1948.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 2675.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.2 Navigation - Aircraft Navigation Systems
Life Cycle Work Area	11. Maintenance

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 2.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 326.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 75.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	3. Advanced Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 50.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 14.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 2131.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 232.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 602.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	7. Production

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 3.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 548.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 34.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 455.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	8. Acceptance Testing

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 7.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in- house cost in FY1993 for this functional support area - life cycle work area. $(K) 1088.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	9. Modernization

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 10.7 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 1495.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 212.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 87.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	10. Program Support

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 1.5 WY's

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 210.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	11. Maintenance

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 1.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 161.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 20.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 25.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.3 Navigation - Surface Ship Navigation Systems
Life Cycle Work Area	15. Program Support (Life-Time)

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 59.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.4 Navigation - Weapons Navigation Systems
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 3.6 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 521.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 150.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 105.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.4 Navigation - Weapons Navigation Systems
Life Cycle Work Area	7. Production

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 32.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 150.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	6.4 Navigation - Weapons Navigation Systems
Life Cycle Work Area	11. Maintenance

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 3.4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 533.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 450.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	7.2 C3I Airborne
Life Cycle Work Area	3. Advanced Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 5.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 799.7

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 380.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 2000.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	7.2 C3I Airborne
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 6.3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 1223.5

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$ (K) 105.4

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 678.0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	7.2 C3I Airborne
Life Cycle Work Area	6. Op. Systems Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 65.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	7.4 C3I Land-Based
Life Cycle Work Area	4. Eng & Mfg Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 35.7

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 1546.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	9.1 Strategic Program - Navy Strategic Systems
Life Cycle Work Area	10. Program Support (Acquisition)

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 51 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 6415.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 1902.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 1098.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	10.1 General Mission - Personnel & Training
Life Cycle Work Area	10. Program Support (Acquisition)

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 3.6 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 546.7

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 165.0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 125.0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	11.2 Generic Tech - Base Software
Life Cycle Work Area	2. Exploratory Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 25.0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	11.3 Generic Tech - Communication Networking
Life Cycle Work Area	3. Advanced Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. 2.5 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 367.5

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Functional Support Area	11.4 Generic Tech - Electronic Devices
Life Cycle Work Area	2. Exploratory Development

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget. .2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area. $(K) 14.4

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.
$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.
$(K) 0

Note:
In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TAB B

SPECIAL FACILITIES AND EQUIPMENT

FACILITIES/EQUIPMENT CAPABILITY FORM

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	TEST VAN

1. State the primary purpose(s) of the facility/equipment.

A mobile test bed to develop and test navigation systems both inertial and external (GPS) for all Navy platforms.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Portable-It is a vehicle that can be driven from site to site.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

$500.0K-The van cost approximately $100.0k and the equipment inside the van cost 400.0K.

4. Provide the gross weight and cube of the facility/equipment.

90,000 LBS., 2400FT^3. VAN

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

None

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

None

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

None, Includes it's own air-conditioning system.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

The van can be driven to other sites. It is a valuable tool in testing the performance of navigation systems.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The van was designed and purchased commercially in 1990 and was driven to the site. Navigation equipment was installed on board at the site.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Submarine Navigation Systems, Aircraft Navigation Systems, Surface Ship Navigation Systems, Weapons Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

10 HOURS PER MONTH

12. Provide the projected utilization data out to FY1997.

10 HOURS PER MONTH

13. What is the approximate number of personnel used to operate the facility/equipment?

TWO to FOUR(4)

14. What is the approximate number of personnel needed to maintain the equipment?

Less than ONE.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.


Naval Command, Control and Ocean Surveillance Center
RDT&E Division – Warminster Detachment
Mobile Navigation Test Facility
Warminster, PA
NRaD

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	OCEAN SURVEY SYSTEM INTEGRATION LABORATORY

1. State the primary purpose(s) of the facility/equipment.

Development and Integration of state-of-the-art navigation, sonar, and data refinement systems for ocean survey applications in support of the United States and United Kingdom Strategic Weapons Program.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Equipment is considered "Class 2" and therefore is movable equipment.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Value of equipment is approximately $12,500,000.00.

4. Provide the gross weight and cube of the facility/equipment.

Gross weight of equipment is approximately 72,400 lbs and a total volume of approximately 2355 Cubic Feet.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

115V 400 HZ DELTA POWER.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

Raised deck with cableways.

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Temperature and humidity must be controlled around the clock.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

Facility/equipment can be located to another site. Site must be approved for processing data up to secret level.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

Facility was established in 1985 and was transported to this site by commercial shipping (trucking).

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Surface Ship Navigation Systems, Navy Strategic Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Equipment utilized continuously over the past five fiscal years in direct support of the United States and United Kingdom Strategic Weapons Programs.Unit of measure was number of people working continually in the laboratory to meet sponsor committments.

12. Provide the projected utilization data out to FY1997.

Projected to be continually used out to FY-1997 and beyond.

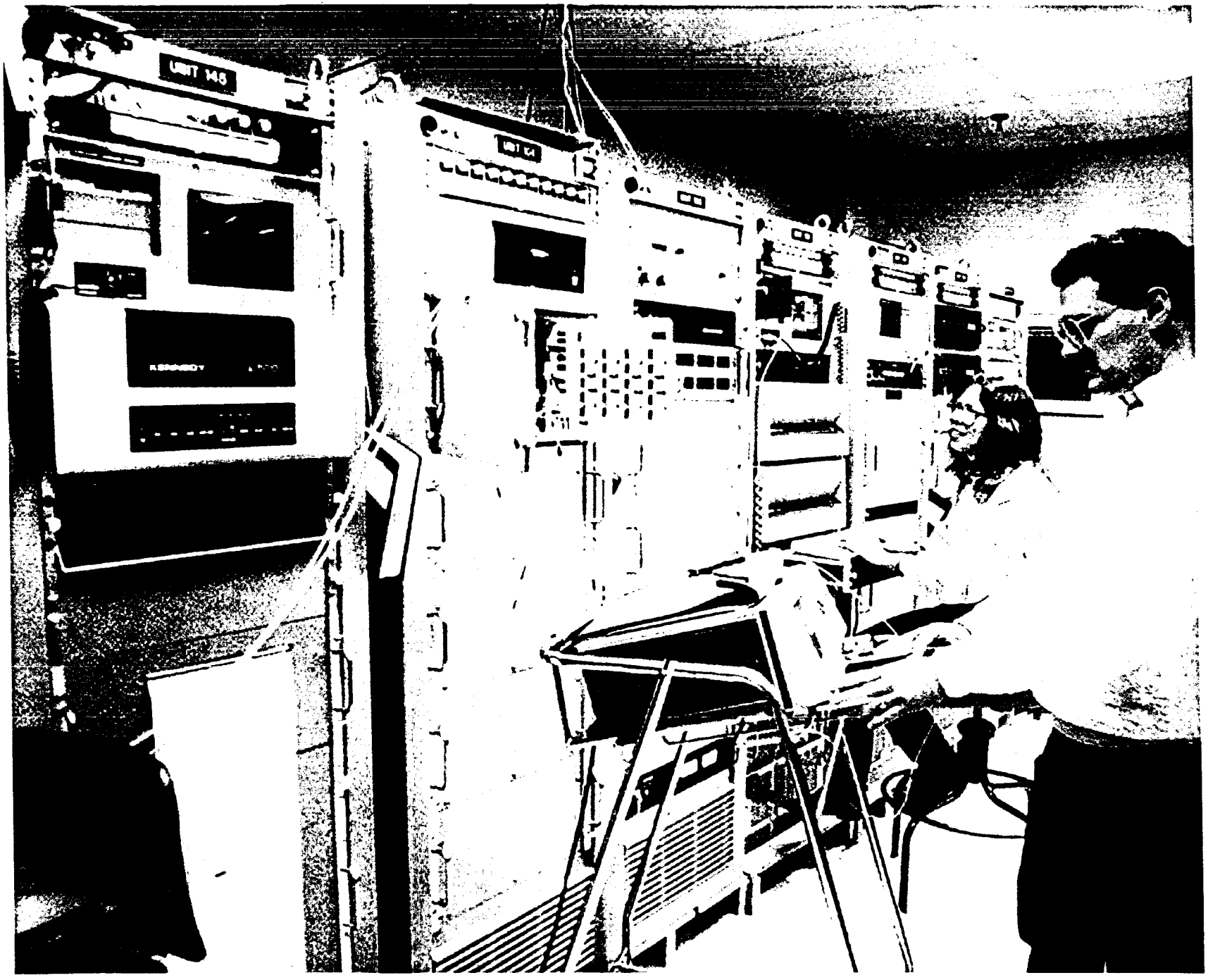
13. What is the approximate number of personnel used to operate the facility/equipment?

50 People.

14. What is the approximate number of personnel needed to maintain the equipment?

2 People.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.



TAB B UIC N49281 PAGE 4A

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	HC/KC-130 GPS CDNU SYSTEMS INTEGRATION LABORATORY

1. State the primary purpose(s) of the facility/equipment.

The HC/KC-130 GPS CDNU Systems Integration Laboratory (SIL) is used as a vehicle for developing and testing the system design that will allow for the integration of Global Positioning System (GPS) and Cockpit Display Navigation Unit (CDNU) with the existing HC-130 AND KC-130 aircraft avionics systems.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 3 Personal Property Items

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

$1,750,000.00

4. Provide the gross weight and cube of the facility/equipment.

GROSS WT IS 2,500 LBS., CUBIC FEET IS 4,500 FT.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Uninterruptable 3-Phase, 115VAC 60/400 HZ and 100 AMP/28 VDC Power Source.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

None

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient 68 Degrees Fareinheit, 30% Humidity.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

Due to the nature of the interwinding of all electrical interface wiring and wiring bundle runs between components it would be difficult to relocate the facility. All equipment are hardwired together as well as being hardwired to an electrical power distribution panel.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The equipment for the facility was obtained essentially one component at a time from various sources via commercial trucking delivery. The equipment was integrated together one component at a time after all equipment interface assemblies were designed and built. This process started in 1992 and modifications have been taking place as needed due to design changes. Two electrical engineers, one electrician and one sheet metal mechanic are responsible for the facility construction.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support.

Refer to Appendix A for the list of functional support areas, Aircraft Navigation Systems, C3I Airborne.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Since it's inception in 1992 it is used constantly 8 hours per day, 5 days per week.

12. Provide the projected utilization data out to FY1997.

FY94-80%, FY95-30%, FY96-30%, FY97-30%.

13. What is the approximate number of personnel used to operate the facility/equipment?

Two electrical engineers

14. What is the approximate number of personnel needed to maintain the equipment?

Two electrical engineer

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.

None available

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	CH-46 GPS SYSTEM INTEGRATION LABORATORY

1. State the primary purpose(s) of the facility/equipment.

The CH-46 GPS System Integration Laboratory (SIL) is used to develop and test an overall system design which will culminate with the integration of GPS User Equipment (UE) AND various other avionics into the CH-46 helicopter.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 3 Personal Property Items

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

$800,000.00

4. Provide the gross weight and cube of the facility/equipment.

Gross wt. is 1000 LBS., Cubic feet is 2,800 ft.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Uninterruptable 3-Phase, 115VAC 60/400 HZ and 100 AMP/28 VDC Power Source.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

None

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient 68 Degrees Fareinheit, 30% Humidity

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

Relocation of this facility to another site would be possible, although the large size of the equipment rack would present some obstacles.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The equipment for the facility was obtained in a "piece-by-piece" manner from various sources. The equipment was integrated together one component at a time after each of the required cable assemblies were designed and constructed. This integration started in 1993 and modifications have been taking place as needed due to design changes. Two electrical engineers, one electrician and one sheet metal mechanic are responsible for the facility construction.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Aircraft Navigation Systems, C3I Airborne.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Since it's inception in 1993 it is used constantly 8 hours per day, 5 days per week.

12. Provide the projected utilization data out to FY1997.

FY94-100%, FY95-100%, FY96-60%, FY97-50%.

13. What is the approximate number of personnel used to operate the facility/equipment?

Two electrical engineers

14. What is the approximate number of personnel needed to maintain the equipment?

Two electrical engineers

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.

None available

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	CARCO FLIGHT MOTION SIMULATOR

1. State the primary purpose(s) of the facility/equipment.

The purpose of the CARCO FLIGHT MOTION SIMULATOR (CFMS) is to test inertial navigation systems under simulated aircraft angular dynamics. System errors are identified, system performance evaluated, system characterized and system readiness for flight test is evaluated, resulting in lower system test costs.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 2 - fixed.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Equipment replacement is $500,000.00, Facilities modification is $100,000.00.

4. Provide the gross weight and cube of the facility/equipment.

Gross weight is 4000 LBS., Cubic feet is 10,000 ft.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Uninterruptable 115VAC 60/400 HZ and 28 VDC Power Source.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

The CARCO FLIGHT MOTION SIMULATOR requires a seismically stable platform.

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Cooling to 68 degrees Farenheit ambient with no more than 20% Humidity and dust free.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

This test facility would be very difficult and expensive to replicate since the base on which the CFMS mounts is directly connected to the underline bedrock structure. This geology is unique to NCCOSC RDTE DIVISION DETACHMENT WARMINSTER. Navy loss of this capability will force greater reliance on contractor testing and greatly increase the cost of inertial avionics performance verification and validation.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The CFMS was transported in seperate sections, the three gimbals, the mount and the control electronics. The base for the CFMS was prepared by pouring a concrete block that extends down to the bedrock structure. The CFMS was then reassembled and calibrated on site.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Aircraft Navigation Systems, C3I Airborne.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

FY89-50%, FY90-0%, FY91-0%, FY-92-30%, FY93-50%.

12. Provide the projected utilization data out to FY1997.

FY94-30%, FY95-30%, FY96-30%, FY97-30%.

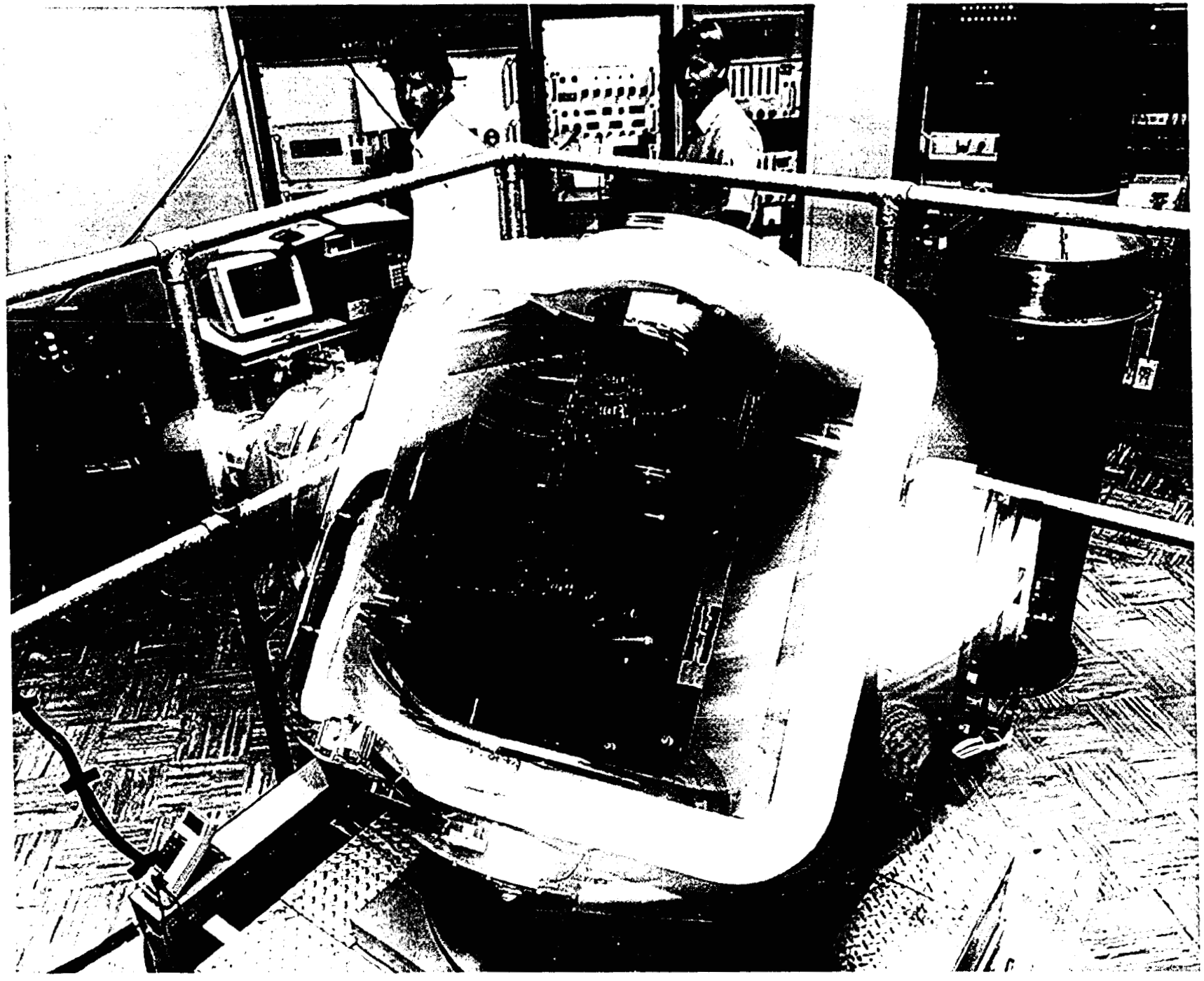
13. What is the approximate number of personnel used to operate the facility/equipment?

1 Hardware engineer, 1Software engineer

14. What is the approximate number of personnel needed to maintain the equipment?

Contract with manufacturer, cost is approximately $15,000.00 per year.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.



TAB B UIC N49281 PAGE 10A

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	INERTIAL COMPONENT TEST LABORATORY

1. State the primary purpose(s) of the facility/equipment.

The purpose of the INERTIAL COMPONENTS TEST LABORATORY is to evaluate the performance related capabilities of inertial components (gyroscopes and accelerometers) in an environment that is free of external influences. Since these components are the prime drivers of inertial navigator performance, determining their performance characteristics is crucial to understanding and improving inertial navigation in the fleet.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

This facility/equipment is CLASS 2: Fixed

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Equipment Replacement: **$1470K**

Facilities Modification: **$1000K**

Total: **$2470K**

Building replacement **$25,000K**

4. Provide the gross weight and cube of the facility/equipment.

Gross Weight: **116 Tons**

Operating Area: **24,000 cubic-feet**

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

The special utility support required to operate the INERTIAL COMPONENTS TEST LABORATORY includes uninteruptible, 120/208 volt, 3 phase power for critical equipments and diesel backup power for the remaining equipments.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

The INERTIAL COMPONENTS TEST LABORATORY requires a seismically stable foundation, isolated from local seismic noise inputs. It also requires a source of compressed air and a source of liquid nitrogen for equipment operation. Relocation to another site would necessitate replication of the following:

- **Close proximity to bedrock, e.g. below ground level**

- **Short, squat test piers to avoid reverse pendulum effects**

- **Lab floor isolated from test piers to reduce effects of foot traffic**

- **Outer wall & center hub to have vibration isolation material between upper & lower footings to attenuate building generated vibrational disturbances**

- **Circular building construction & domed roof to minimize building vibrations, wind buffeting and distribute forces generated by solar heating**

- **Air conditioning ducts, pipe lines & ceilings supported from the roof by a vibration isolation system to attenuate vibration thoughout the facility**

- **Lighting fixture lenses conductive coated to reduce radiant electrical noise**

- **Lighting fixture line filters to reduce the conducted electrical noise.**

- **North star alignment portals to optimize optical alignment of test equipments.**

- **Power backup for the building.**

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient temperature and humidity must be controlled within the normal limits for a state-of-the-art test facility.

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

The test equipment within the INERTIAL COMPONENTS TEST LABORATORY would be relatively easy to relocate. However, the seismic stability of the local bedrock is a key factor to the uniqueness of this facility and replication of this capability would be extremely difficult and costly. The INERTIAL COMPONENTS TEST LABORATORY is the only facility (in government or private sector) in existence with the long-term seismic stability necessary to evaluate high accuracy submarine system inertial components. Loss of the INERTIAL COMPONENTS TEST LABORATORY would seriously impact the Navys ability to conduct R&D of new emerging technologies, evaluate long-term performance of inertial components, provide necessary criteria to do contractor test procedures and would result in the loss of corporate memory and experience, and the benefits of having an independent, unbiased government laboratory.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The building housing the laboratory was constructed after an extensive feasibility study determined the site one of the most seismically stable in the U.S. The building was designed and built to eliminate/attenuate noise and vibration. The test equipment contained in the INERTIAL COMPONENTS TEST LABORATORY was transported to the present site as individual units during the time period 1974 to the present. Disassembly/reassembly has not been required to date. The granite test piers were installed during the initial construction phase; removal will require demolition of the facility.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

The INERTIAL COMPONENTS TEST LABORATORY supports research and development testing of state-of-the-art inertial components and fleet problem resolution related to inertial components in support of Submarine Navigaton Systems, Surface Ship Navigation Systems, Aircraft Navigation Systems, and Weapons Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

FY89-90%, FY90-90%, FY91-90%, FY92-90%, FY93-90%.

12. Provide the projected utilization data out to FY1997.

FY94-90%, FY95-90%, FY96-90%, FY97-90%.

13. What is the approximate number of personnel used to operate the facility/equipment?

2 - Research Scientists

4 - Hardware Engineers

1 - Software Engineer

2 - Technicians

14. What is the approximate number of personnel needed to maintain the equipment?

Test equipment/facility maintenance is performed by Operational Personnel. Of the 9 man-years above, 0.5 man-years are spent for maintenance.

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.

TAB B UIC N49281 PAGE 14A

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	RF/MICROELECTRONICS LABORATORY

1. State the primary purpose(s) of the facility/equipment.

Develops and prototypes state-of-the-art microelectronic circuitry, and tests miniaturized components and circuits with emphasis on Radio Frequency and Microwave circuitry.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 2 , Fixed

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

$3,000,000.00

4. Provide the gross weight and cube of the facility/equipment.

Gross Weight is 30,000 LBS., Cubic feet is 20,000 sq ft.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Clean Room Class - 1000
Positive Air Pressure- .06 in. water
Chemical Drains
Sanitary Drain
Domestic Hot Air and Cold Water
Ventilation Exhaust- 175 CFM
Compressed Air- 15 CFM Clean, dry compressed air
Nitrogen Piping within Laboratory

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

None

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Temperature- 70 degrees Farenheit +/- 2 Degrees Farenheit
Relative Humidity- 40 Degrees +/- 5 Degrees Farenheit

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

The laboratory is used to support communication and navigation projects at NCCOSC RDT&E DIV DET WARMINSTER. It must be collocated to allow for prototype fabrication of exploratory, advanced and engineering development microelectronic circuitry for ongoing projects and allow for interaction/iterations with project engineers. It allows for the evaluation of advanced concepts for high performance systems and for fabrication of test fixtures and assemblies to allow for government evaluation of contractor integrated circuits, components and microelectronic assemblies.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The facility was initially constructed on-site in 1964. It has been upgraded to it's present condition on a yearly basis.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

C31 Airborne, Special Sensors, Generic Technology Base Software, Generic Technology Base Communication Networking, Generic Technology Base Electronic Devices.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Equipment utilized continuously over the past five fiscal years in direct support of exploratory, advanced and engineering development projects to meet sponsor committments.

12. Provide the projected utilization data out to FY1997.

Projected to be continually used out to FY97 and beyond.

13. What is the approximate number of personnel used to operate the facility/equipment?

Three (3)

14. What is the approximate number of personnel needed to maintain the equipment?

One (1)

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.

TAB B UIC N49281 PAGE 17A

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	SIMULATED SHIPS MOTION TEST FACILITY

1. State the primary purpose(s) of the facility/equipment.

The simulated Ships Motion Test Facility consists primarily of three 3 axis ship motion simulators (Scorsby), including the world's largest precision ship motion simulator (Benton Model 1592), installed in FY93. The facility also contains a number of control/work stations which support the ship motion simulators. These stations control the operation of the simulators, extract the motion data and provides the interface/data recording capability for the navigation systems under test.

The facility is used to evaluate the navigation performance of the NAVY'S marine gyrocompass and inertial navigators. More specifically, the facility is used to:

* Establish a performance database for each gyrocompass/inertial navigation system under test.
* Evaluate and characterize system error models.
* Characterize systems dynamic outputs to user (e.g. Missile Alignment Systems, Combat Systems, etc..)
* Evaluate new system designs and improvements, provide quantitative measurment of improvements.
* Duplicate, investigate and resolve fleet reported problems, isolate problem to user system, inertial navigation system or component (gyro, accelerometer).

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

The Simulated Ships Motion test facility with it's ship motion simulators as defined in paragraph 6 are considered to be a Class 2 fixed asset. Any move would incur significant construction costs (e.g. approximately $1,000,000.00 to move/install ship motion simulators) and would require certain site features (i.e. bedrock close to ground level) not readily available in all parts of the country. A description of the installation and facility requirements is provided below. The weight of the simulators range from 8 to 15 tons each. They are required for developing and testing ship and submarine gyrocompass and inertial navigation systems and are therefore designed to handle test articles of up to 3,000 lbs.. Each simulator is mounted in a well 20 ft deep, a total of 230 tons of concrete was used to install the three simulators. Each well is attached to

bedrock to provide the necessary reference stability and to minimize the effects of vibration on system performance evaluation.

The facility must be located adjacent to a loading dock and must provide for easy forklift access to each of the simulator test stations. A high ceiling (>13ft) and monorail/hoist (4,000 lb. capacity) is required for the installation and removal of test articles. Direct sighting of the North Star is required to provide precise heading reference for the facility. This requires use of an optical tube which must penetrate the outer building wall of the facility.

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

The approximate facility cost (exclusive of the building) in today's dollars is $2,500,000.00.

4. Provide the gross weight and cube of the facility/equipment.

The facility occupies 72,000 cu. ft.. The gross weight of the three ship motion simulators is (excluding concrete foundations) and associated control/work stations is approximately 32 tons.

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Facility power requirements are:
120V, 400 HZ 3 PHASE DELTA, 1200 AMPS
120/208V, 60 HZ, 3 PHASE "Y", 100 AMPS
277/48V, 60 HZ 3 PHASE "Y", 300 AMPS
120V, 60 HZ, 3 PHASE DELTA, 300 AMPS
120/208V, 60 HZ, 3 PHASE "Y" UNINTERRUPTABLE POWER SUPPLY, 300AMPS

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

Each ship motion simulator must be mounted in a concrete well. Currently, the three simulators are mounted in wells that are 20 ft. deep. A total of 230 tons of concrete was used to install the three simulators. Each well is attached to bedrock to provide the necessary reference stability and to minimize the effects of vibration on system performance evaluation.

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

The facility must be air conditioned to maintain temperature between 65 degrees and 75 degrees farenheit. Additionally, in order to conduct system performance tests under varying environments, one of the ship motion simulators must be installed in an

environmental chamber (temperature/humidity) approximately 27ft long ,30ft wide and 14ft high to allow testing to be performed under varying conditions of temperature (32 to 125 degrees farenheit) and humidity (0-95%).

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

A move would incur significant construction costs (e.g. approximately $1,000,000.00 to move/install ship motion simulators) and would require certain site features (i.e. bedrock close to ground level) not readily available in all parts of the country. A description of the installation and facility requirements is provided below. The weight of the simulators range from 8 to 15 tons each. They are required for developing and testing ship and submarine gyrocompass and inertial navigation systems and are therefore designed to handle test articles of up to 3,000 lbs.. Each simulator is mounted in a well 20 ft deep, a total of 230 tons of concrete was used to install the three simulators. Each well is attached to bedrock to provide the necessary reference stability and to minimize the effects of vibration on system performance evaluation.

The facility must be located adjacent to a loading dock and must provide for easy forklift access to each of the simulator test stations. A high ceiling (>13ft) and monorail/hoist (4,000 lb. capacity) is required for the installation and removal of test articles. Direct sighting of the North Star is required to provide precise heading reference for the facility. This requires use of an optical tube which must penetrate the outer building wall of the facility.

This facility is the only facility, within the DOD or private sector capable of dynamically mesuring marine inertial system attitude performance to current NAVY specifications. The motion simulators have been designed for the development and test of very high ring laser, fiber optic and superconducting technology navigation systems. The newest of these simulators (Benton Model 1592, one of a kind) has the capability (i.e. load capacity, accuracy) to test a full ships navigation set (dual navigation system) and meets all known future NAVY requirements for system performance evaluation.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

Each of the three ships motion simulators were shipped by truck in sections and assembled in the Ships Motion Test Facility at NCCOSC RDT&E DIV DET WARMINSTER on specifically designed concrete foundations. Simulator no.1 was installed in 1976, simulator no. 2 was installed in 1985, and simulator no. 3 was installed in 1993. Subsequent to installation, each simulator was aligned to true North and it's performance was certified to meet the specified attitude, accuracy and rate requirements.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

Submarine Navigation Systems, Surface Ship Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Simulator no.1 - 98%
Simulator no.2 - 98%

Note: Only 2 of the 3 simulators currently installed in the Simulated Ship Motion Test Facility are addressed. The third simulator was not installed until late 1993 and was not utilized to support testing during period of interest.

The facility utilization was determined by dividing the user time (actual test time) by the facility budgeted capacity (funded test time).

12. Provide the projected utilization data out to FY1997.

FY94 through FY97 projected utilization is 98%.

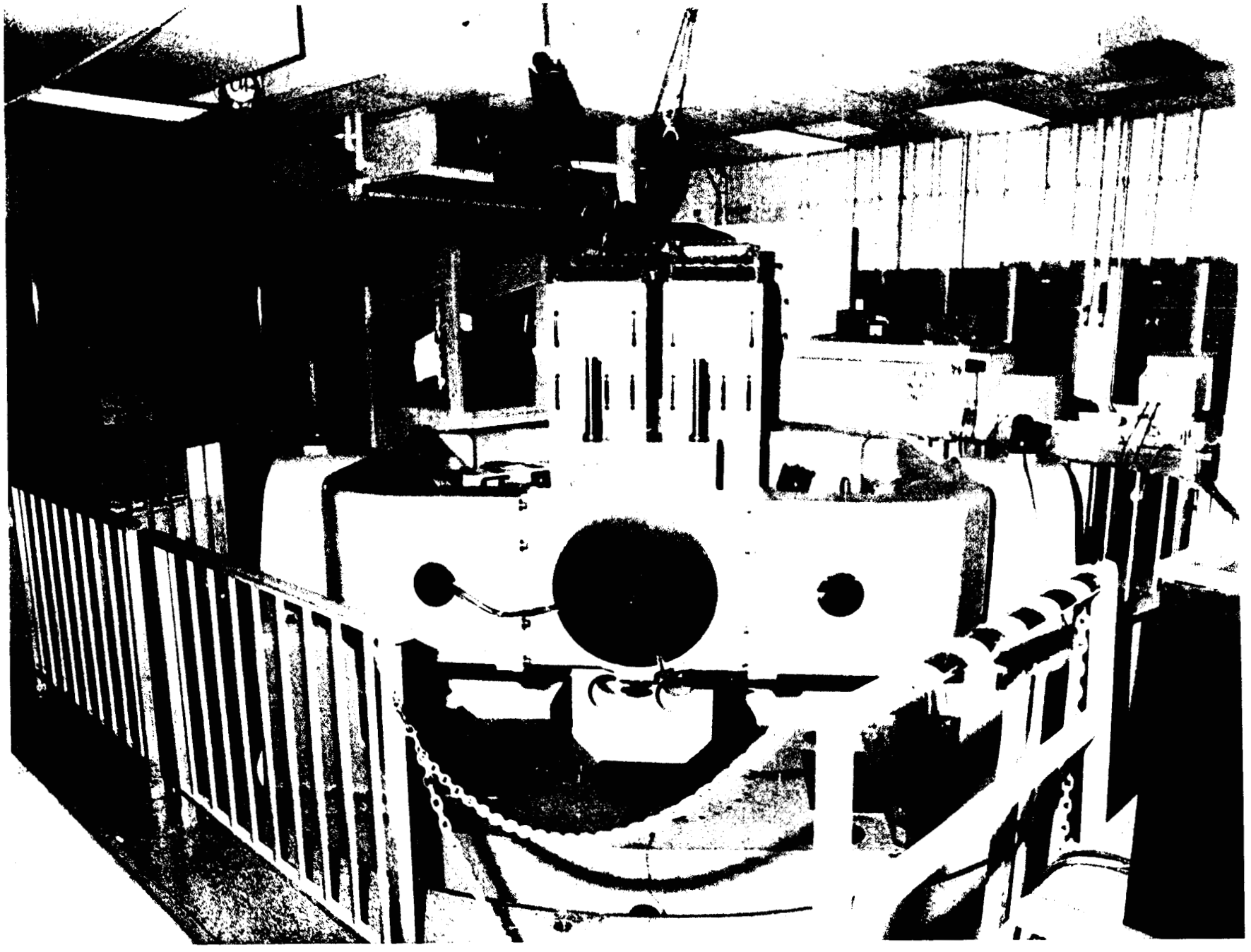
13. What is the approximate number of personnel used to operate the facility/equipment?

Three test engineers and two technicians.

14. What is the approximate number of personnel needed to maintain the equipment?

Two technicians

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.



TAB B UIC N49281 PAGE 21A

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NCCOSC RDTE DIV DET WARMINSTER PA
Facility/Equipment Nomenclature or Title	GPS LABORATORY

1. State the primary purpose(s) of the facility/equipment.

Since 1980, NRaD's GPS Laboratory has been DoD's lead laboratory for developing GPS receivers and GPS receiver test tools. The lab reproduces a complete host vehicle environment through a coordinated, real-time simulation of both the GPS satellite signals and host vehicle communications. In this unique development, integration and test and evaluation environment, GPS receiver hardware and software can be exercised dynamically, under precise and repeatable laboratory conditions.

2. Indicate whether the facility/equipment is portable, moveable or fixed as defined by paragraph 6, page 12 of this data call.

Class 2 Installed Equipment, Moveable

3. Provide the replacement value of the facility/equipment. Report the facility/equipment cost separate from any building and utilities that may be integral to the facility/equipment.

Approximately $5,000,000.00

4. Provide the gross weight and cube of the facility/equipment.

10,000 lb. (equipment), 260,000 ft^3

5. Indicate any "special" utility support required by this facility/equipment other than normal electrical power.

Halon fire control, T1 telephone lines, 140 amp 3-phase 115 VAC 60, 28 & 5 VDC, power conditioning, uninterruptable power supply.

6. Indicate any special budget requirements for the facility/equipment (i.e., special foundations, non-ferrous materials, shielding, hardening, etc.).

Screen room (RF shielding), bonded storage, raised deck, TEMPEST approved building, other security (large equipment safes, COMSEC).

7. State any environmental control requirements for the facility/equipment (i.e., temperature, humidity, air scrubbing).

Ambient (68 degrees, 30% humidity)

8. Indicate if this facility/equipment would be extremely difficult or impossible to replicate or relocate at another site and the impact to the Department of the Navy if this facility/equipment were lost. Consider existing Government-wide and commercial capabilities as the replication and impact statements are formulated.

NRaD's GPS facilities are unique because of the depth of NRaD's GPS / navigation expertise and experience. On a continuing basis, the lab facilities play a critical role in the following: bid sample testing, proof of concepts, "what if" investigations, and evaluations of GPS receivers for acquisition. Every branch of DoD, the Coast Guard, the FAA, and commercial GPS vendors such as Trimble, Garmin and Aschtect are using the NRaD's capabilities. This laboratory is a critical national asset; it is unique within the government and it can not be replicated.

9. Indicate how and when the facility/equipment was transported and or constructed at the site.

The GPS laboratory was initiated in the mid 80's with the development of the GPS Satellite Signal Generator and other related GPS test and evaluation equipments. All initial critical laboratory components were developed by NRaD over the next five years (several have evolved into commercial products). Development of new laboratory equipment necessarily continues to keep pace with the rapid advancements characterizing current GPS technology.

10. List the functional support areas (previously provided in Tab A) that this facility/equipment support. Refer to Appendix A for the list of functional support areas.

C3I Airborne, Submarine Navigation Systems, Aircraft Navigation Systems, Surface Ship Navigation Systems, Weapons Navigation Systems.

11. Provide the historical utilization average for the past five fiscal years (1989-1993). Define the unit of measure used.

Since reaching initial operational capability in 1985, the lab has been used fully 40 hours a week with occasional second shifts or weekend work required.

12. Provide the projected utilization data out to FY1997.

1994	1995	1996	1997
100%	110%	110%	120%

13. What is the approximate number of personnel used to operate the facility/equipment?

Six full time Engineers plus contractor support

14. What is the approximate number of personnel needed to maintain the equipment?

Six full time Engineers plus contractor support

15. Provide one 8 1/2 x 11 black and white photo of the facility/equipment.

TAB B UIC N49281 PAGE 23A

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Five - NCCOSC RDTE DIV DET WARMINSTER PA

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

NEXT ECHELON LEVEL (if applicable)

J. J. DONEGAN
NAME (Please type or print)

SIGNATURE

Commander
Title

30 JUNE 1994
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

W. H. CANTRELL
NAME (Please type or print)

Signature

Commander
Title

10 Aug 94
Date

Space and Naval Warfare Systems Command
Activity

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

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

J. B. GREENE, JR.
NAME (Please type or print)

Signature

ACTING
Title

15 Aug 1994
Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

29 JUNE 94.
Date

NCCOSC RDTE DIV
Activity

DATA CALL # 5 - MILITARY VALUE

NCCOSC RDTE DIV DET WARMINSTER PA

R

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Five - NCCOSC RDTE DIV DET WARMINSTER PA

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

NEXT ECHELON LEVEL (if applicable)

G. A. KLEIN III
NAME (Please type or print)

G. A. Klein III
SIGNATURE

Acting Commander
Title

22 September 1994
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

W. H. CANTRELL
NAME (Please type or print)

W. H. Cantrell
Signature

Commander
Title

9/22/94
Date

Space and Naval Warfare Systems Command
Activity

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

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

W. A. EARNER
NAME (Please type or print)

W. A. Earner
Signature

Title

10/5/94
Date

Activity

Questions 5d, 5e, 5g, 5h and 23

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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Re-certification of Data Call #5 per BSAT clarification request:

Question 5d, 5e, 5g, 5h
Question 23

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)


Signature

COMMANDING OFFICER
Title

21 SEPT 94
Date

NCCOSC RDTE DIV
Activity

DATA CALL #5 - MILITARY VALUE, NCCOSC RDTE DIV DET WARMINSTER (UIC N49281)

DATA CALL 63
FAMILY HOUSING DATA

221

Information on Family Housing is required for use in BRAC-95 return on investment calculations.

Installation Name:	**NCCOSC Warminster**
Unit Identification Code (UIC):	**49281**
Major Claimant:	**SPAWAR**

Percentage of Military Families Living On-Base:	**0**
Number of Vacant Officer Housing Units:	**0**
Number of Vacant Enlisted Housing Units:	**0**
FY 1996 Family Housing Budget ($000):	**0**
Total Number of Officer Housing Units:	**0**
Total Number of Enlisted Housing Units:	**0**

Note: All data should reflect figures as of the beginning of FY 1996. If major DON installations share a family housing complex, figures should reflect an estimate of the installation's prorated share of the family housing complex.

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

MAJOR CLAIMANT LEVEL

J. E. BUFFINGTON, RADM, CEC, USN
NAME (Please type or print)

Signature

COMMANDER
Title

7/20/94
Date

NAVAL FACILITIES ENGINEERING COMMAND
Activity

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

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

W. A. EARNER

NAME (Please type or print)

Signature

Title

7/25/94
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

ACTIVITY COMMANDER

W.A. Waters, CAPT, CEC, USN
NAME (Please type of print)

Signature

Commanding Officer
Title

7/7/94
Date

NORTHNAVFACENGCOM
Activity

BRAC-95 CERTIFICATION

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

Sandra B. Culbertson
NAME (Please type or print)

Sandra B. Culbertson
Signature

Housing Management Specialist
Title

7/6/94
Date

Division

Housing/Real Estate
Department

NORTHNAVFACENGCOM
Activity

Enclosure (1)

lines to the table (following line 2j., as necessary, to identify any additional cost elements not currently shown). **Leave shaded areas of table blank.**

Table 1A - Base Operating Support Costs (Other Than DBOF Overhead)			
Activity Name: NCCOSC RDTE DIV DET WARMINSTER PA			**UIC: N49281**
Category	**FY 1996 BOS Costs ($000)**		
	Non-Labor	**Labor**	**Total**
1. Real Property Maintenance Costs:			
1a. Maintenance and Repair			
1b. Minor Construction			
1c. Sub-total 1a. and 1b.			
2. Other Base Operating Support Costs:			
2a. Utilities			
2b. Transportation			
2c. Environmental			
2d. Facility Leases			
2e. Morale, Welfare & Recreation			
2f. Bachelor Quarters			
2g. Child Care Centers			
2h. Family Service Centers			
2i. Administration			
2j. Other (Specify)			
2k. Sub-total 2a. through 2j:			
3. Grand Total (sum of 1c. and 2k.):			**NONE**

b. Funding Source. If data shown on Table 1A reflects more than one appropriation, then please provide a break out of the total shown for the "3. Grand-Total" line, by appropriation:

Appropriation	Amount ($000)
NONE	NONE

c. **Table 1B - Base Operating Support Costs (DBOF Overhead).** This Table should be submitted for all current DBOF activities. Costs reported should reflect BOS costs supporting the DBOF activity itself (usually included in the G&A cost of the activity). For DBOF activities which are tenants on another installation, total cost of BOS incurred by the tenant activity for itself should be shown on this table. It is recognized that differences exist among DBOF activity groups regarding the costing of base operating support: some groups reflect all such costs only in general and administrative (G&A), while others spread them between G&A and production overhead. Regardless of the costing process, all such costs should be included on Table 1B. The Minor Construction portion of the FY 1996 capital budget should be included on the appropriate line. Military personnel costs (at civilian equivalency rates) should also be included on the appropriate lines of the table. Please ensure that individual lines of the table do not include duplicate costs. Also ensure that there is no duplication between data provided on Table 1A. and 1B. These two tables must be mutually exclusive, since in those cases where both tables are submitted for an activity, the two tables will be added together to estimate total BOS costs at the activity. Add additional lines to the table (following line 21., as necessary, to identify any additional cost elements not currently shown). **Leave shaded areas of table blank.**

Other Notes: All costs of operating the five Major Range Test Facility Bases at DBOF activities (even if direct RDT&E funded) should be included on Table 1B. Weapon Stations should include underutilized plant capacity costs as a DBOF overhead "BOS expense" on Table 1B..

DATA CALL 66
INSTALLATION RESOURCES

Table 1B - Base Operating Support Costs (DBOF Overhead)			
Activity Name: NCCOSC RDTE DIV DET WARMINSTER PA			**UIC: N49281**
Category	**FY 1996 Net Cost From UC/FUND-4 ($000)**		
	Non-Labor	**Labor**	**Total**
1. Real Property Maintenance Costs:			
1a. Real Property Maintenance (>$15K)	0	0	0
1b. Real Property Maintenance (<$15K)	290	0	290
1c. Minor Construction (Expensed)	0	0	0
1d. Minor Construction (Capital Budget)	0	0	0
1c. Sub-total 1a. through 1d.	290	0	290
2. Other Base Operating Support Costs:			
2a. Command Office	7	0	7
2b. ADP Support	20	0	20
2c. Equipment Maintenance	173	0	173
2d. Civilian Personnel Services	0	0	0
2e. Accounting/Finance	0	0	0
2f. Utilities	563	0	563
2g. Environmental Compliance	0	0	0
2h. Police and Fire	0	0	0
2i. Safety	1	19	20
2j. Supply and Storage Operations	35	115	150
2k. Major Range Test Facility Base Costs	0	0	0
2l. Other (Specify)	0	0	0
2m. Sub-total 2a. through 2l:	799	134	933
3. Depreciation	0	0	00
4. Grand Total (sum of 1c., 2m., and 3.) :	**1,089**	**134**	**1,223**

Note: The Table 1B projected FY 96 BOS costs include both this activity's and NCCOSC RDTE DIV DET PHILADELPHIA PA's costs because the Philadelphia detachment will consolidate with this activity not later than June 1995 to comply with BRAC-91.

2. Services/Supplies Cost Data. The purpose of Table 2 is to provide information about projected **FY 1996** costs for the purchase of services and supplies by the activity. **(Note: Unlike Question 1 and Tables 1A and 1B, above, this question is not limited to overhead costs.)** The source for this information, where possible, should be either the NAVCOMPT OP-32 Budget Exhibit for O&M activities or the NAVCOMPT UC/FUND-1/IF-4 exhibit for DBOF activities. Information must reflect FY 1996 budget data supporting the FY 1996 NAVCOMPT Budget Submit. Break out cost data by the major sub-headings identified on the OP-32 or UC/FUND-1/IF-4 exhibit, disregarding the sub-headings on the exhibit which apply to civilian and military salary costs and depreciation. Please note that while the OP-32 exhibit aggregates information by budget activity, this data call requests OP-32 data for the activity responding to the data call. Refer to NAVCOMPTINST 7102.2B of 23 April 1990, Subj: Guidance for the Preparation, Submission and Review of the Department of the Navy (DON) Budget Estimates (DON Budget Guidance Manual) with Changes 1 and 2 for more information on categories of costs identified. Any rows that do not apply to your activity may be left blank. However, totals reported should reflect all costs, exclusive of salary and depreciation.

Table 2 - Services/Supplies Cost Data

Activity Name: NCCOSC RDTE DIV DET WARMINSTER PA	**UIC: N49281**
Cost Category	**FY 1996 Projected Costs ($000)**
Travel:	1,856
Material and Supplies (including equipment):	2,878
Industrial Fund Purchases (other DBOF purchases):	5,333
Transportation:	42
Other Purchases (Contract support, etc.):	22,091
Total:	**32,200**

3. Contractor Workyears.

a. **On-Base Contract Workyear Table.** Provide a projected estimate of the number of contract workyears expected to be **performed "on base"** in support of the installation during FY 1996. Information should represent an annual estimate on a full-time equivalency basis. Several categories of contract support have been identified in the table below. While some of the categories are self-explanatory, please note that the category "mission support" entails management support, labor service and other mission support contracting efforts, e.g., aircraft maintenance, RDT&E support, technical services in support of aircraft and ships, etc.

Table 3 - Contract Workyears

Activity Name: NCCOSC RDTE DIV DET WARMINSTER PA	**UIC: N49281**
Contract Type	**FY 1996 Estimated Number of Workyears On-Base**
Construction:	0
Facilities Support:	5
Mission Support:	26
Procurement:	0
Other:*	0
Total Workyears:	**31**

* **Note:** Provide a brief narrative description of the type(s) of contracts, if any, included under the "Other" category.

b. Potential Disposition of On-Base Contract Workyears. If the mission/functions of your activity were relocated to another site, what would be the anticipated disposition of the **on-base contract workyears** identified in Table 3.?

1) Estimated number of contract workyears which would be transferred to the receiving site (This number should reflect the number of jobs which would in the future be contracted for at the receiving site, not an estimate of the number of people who would move or an indication that work would necessarily be done by the same contractor(s)):

31

2) Estimated number of workyears which would be eliminated:

0

3) Estimated number of contract workyears which would remain in place (i.e., contract would remain in place in current location even if activity were relocated outside of the local area):

0

c. "Off-Base" Contract Workyear Data. Are there any contract workyears located in the local community, but not on-base, which would either be eliminated or relocated if your activity were to be closed or relocated? If so, then provide the following information **(ensure that numbers reported below do not double count numbers included in 3.a. and 3.b., above)**:

No. of Additional Contract Workyears Which Would Be Eliminated	General Type of Work Performed on Contract (e.g., engineering support, technical services, etc.)
0	**NONE**

No. of Additional Contract Workyears Which Would Be Relocated	General Type of Work Performed on Contract (e.g., engineering support, technical services, etc.)
69	**Technical Services in support of primary mission.**

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Sixty-Six - NCCOSC RDTE DIV DET WARMINSTER PA

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

NEXT ECHELON LEVEL (if applicable)

J. J. DONEGAN
NAME (Please type or print)

SIGNATURE

Commander
Title

22 JULY 1994
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

W. H. CANTRELL
NAME (Please type or print)

Signature

Commander
Title

27 July 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

W. A. EARNER
NAME (Please type or print)

Signature

Title

8/9/94
Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

13 July 1994
Date

NCCOSC RDTE DIV
Activity

INSTALLATION RESOURCES DATA CALL # 66

NCCOSC RDTE DIV DET WARMINSTER