DCN 1639

MAJOR FACILITIES
POST-SCENARIO TITLES VS SCENARIO TITLES

Post Scenario Grouping Titles	Scenario Facility Titles
Philadelphia	
Advanced Propulsion Machinery	Advanced Propulsion Machinery Facility
Advanced Shipboard Auxiliary Machinery	Auxiliary Machinery Systems Laboratory
Machinery Acoustic Silencing	Machinery Acoustics Silencing Facility
	Submarine Fluidics Laboratory
Electric Power Technology	Electric Power Technology Facility
Advanced Electric Propulsion Development	Advanced Electric Propulsion Development Facility
	Super Conductivity Laboratory
Pulse Power	Pulsed Power Facility
Sea Survival Life Saving Systems	Sea Survival/Life Saving Systems
Non-CFC Laboratory	Non-CFC Refrigerant Testing Facility
Carderock	
Magnetic Fields Laboratory	Magnetic Fields Laboratory
Information Systems R&D	Information Systems R&D
Advanced Materials Laboratory	Materials & Processing
	Thermal Spray Facility
	Polyurethane Processor
	Reactive Metals Spray Forming Facilities
NRL, Chesapeake Bay Facility	
Intermediate Fire Scale Facility	Intermediate Fire Scale Facility
Annapolis Vicinity	
Joint Spectrum Center	Joint Spectrum Center

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

NEXT ECHELON LEVEL (if applicable)

James E. Baskerville; Captain USN	
NAME (Please type or print)	Signature
Commander	27 January 1995
Title	Date
Carderock Division, NSWC	
Activity	

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

NEXT ECHELON LEVEL (if applicable)

RADM D. P. SARGENT, JR.	
NAME (Please type or print)	Signature
COMMANDER	27 January 1995
Title	Date
NAVAL SURFACE WARFARE CENTER	
Activity	

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print)	Signature
Title	Date
Activity	

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

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

NAME (Please type or print)	Signature
Title	Date
Activity	

This certification covers the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

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

L. R. Walker: Commander, USN
NAME (Please type or print)

LR Walker
Signature

Officer-in-Charge
Title

27 January 1995
Date

Naval Surface Warfare Center, Carderock Division Detachment, Annapolis
Activity

This certification covers the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
<u>ENCLOSURE (1)</u> - SCENARIO SUMMARY

Complete <u>one</u> copy of Enclosure (1) - Scenario Summary for the entire closure/realignment scenario. Tables included in this enclosure are 1-A, 1-B and 1-C.

<u>Table 1-A: Scenario Description.</u> Identify the Scenario Number, Title and Response Date. The Scenario Number and Title will be provided to you by the BSAT as part of the data call tasking.

Scenario No.:	3-20-0198-035A
Scenario Title:	NSWC Annapolis
Date:	1600 EST, 22 December 1994

DESCRIPTION OF THE PROPOSED ALTERNATIVE SCENARIO:

"Close NSWC Det Annapolis and Special Areas (Nike Site). Consolidate the majority of the Machinery R&D functions at NSWC-Philadelphia and at other NSWC Carderock sites as appropriate. Relocate/Replicate, as fiscally prudent and appropriate, those specialized capabilities and facilities now only available at NSWC Annapolis."

IMPACT STATEMENT:

The scenario 3-20-0198-035 as presented by the BSAT is impractical to implement. As per the BRAC 95 instructions, the NAVSEASYSCOM is providing a recommended alternative which still closes NSWC Det Annapolis, but is <u>significantly</u> different from the "baseline scenario". **The "baseline scenario" creates significant eliminations in overall US Navy critical capabilities (i.e. vertical mission reductions). This scenario relocates seven facilities from Annapolis (see pages 7 and 8) which were not relocated in the baseline scenario 3-20-0198-35 and therefore retains many of the Mission Essential Machinery RDT&E capabilities within the U.S. Navy Force Structure while reducing overall Navy Infrastructure costs.** The alternative scenario however, does result in some lost capabilities and will adversely impact the ability of the U.S. Navy to meet selected requirements.

Scenario 3-20-0198-035A, as in Scenario 3-20-0198-035, provides for the closure of "...special areas (NIKE Site)." The Intermediate Fire Research equipment will relocate from the Nike site, without the personnel, to NRL Chesapeake Beach Detachment. The Sea Survival/Life Saving Sytems will be moved to the NSWC Philadelphia site, and the remaining

Materials Research test facilities (functionally realigned under BRAC 91 to the NSWC Carderock site) will be moved to the Carderock site.

A. Annapolis Site Closure Impact Assessment:

Facilities at NSWC Annapolis Site have been developed to serve unique aspects of Research and Development. In particular, these facilities are capable of controlling machinery operating parameters independently and maintaining them over extended periods of time, as well as varying them over the entire range. These characteristics are not available in the majority of In-Service Engineering (ISE) facilities at NSWC Philadelphia. In many cases they cannot be obtained through augmentation, but are essential to the R&D function of defining the performance of developmental equipment and verifying analytical models. Examples where Philadelphia assets are adequate include Compressed Air, Shock and Vibration, and Diesel Engine Facilities. In contrast, facilities where augmentation would be costly and impractical include Propulsion Line Shaft, Auxiliary Machinery, and Environmental Non-CFC. Facilities that do not exist in any form include Deep Ocean Machinery Simulation, Magnetic Fields, Submarine Fluid Dynamics, Electric Power, Electric Propulsion, and Machinery Acoustic Silencing.

In this alternative scenario the closure of the Annapolis Site with the migration of selected critical staff and mission essential R&D facilities provides for the continuance of the majority of the Navy's capabilities to transform machinery requirements into technical and procurement specifications (military and commercial), the development of specialized certification criteria and associated validation of system designs, and the ability to provide acceptance testing of specialized or "one of a kind" full-scale machinery systems. Currently, the Annapolis based Machinery R&D Directorate supports and complements the hull focused functions at the NSWC Carderock Site as well as the ISE functions at the NSWC Philadelphia Site by providing an organic linkage of S&T capabilities with the machinery development, acquisition, and operational problem resolution processes.

This alternative scenario also provides for the migration of 280 technical operations personnel with their primary Machinery R&D tools. An additional 28 positions will be allocated from excess capacity at receiving sites.

This scenario also eliminates some critical Machinery R&D capabilities through the loss of 94 personnel and their RDT&E facilities and/or equipments.

Selected capabilities in Machinery R&D retained in this alternative scenario are defined below:

* The R&D scientists and engineers remain connected with their special facilities retaining the ability to integrate the ship systems technologies and components to meet USN

performance. stealth. and affordability goals. especially in auxiliary and electrical areas characterized by diverse and often competing functions and multiple equipment suppliers. many of which are small with minimal laboratory capability and largely non-DoD business base.

* The continued availability of essential R&D facilities sustains the Navy's ability to cost effectively explore. specify. validate . and introduce new machinery into advanced submarines and surface ships as well as advanced surface machinery programs and autonomic ship initiatives. Some of the more significant facility capability consolidations and/or replications include:

  - NSWC Philadelphia Site:

    - Replication of the only full scale submarine shaftline facilities capable of performing USN required qualification and SUBSAFE certification of thrust bearings. vibration reducers. and propulsion and emergency shaft seals. These facilities are also used in the development and validation of active shaftline vibration control systems.

    - Replication and integration of the NSWC Annapolis Site electric drive and pulse power facilities laboratories into the existing NSWC-Philadelphia capabilities will reduce risks in the development of affordable propulsion and propulsion derived power for strike and self-defense weapons (e.g. the electric gun).

    - Replication and integration of electrical power and auxiliary laboratories which are required for the development of damage tolerant integrated systems and which reduce manning levels. crew skill requirements. and acquisition/support costs.

    - The augmentation and replication of the special machinery acoustic silencing facilities at the NSWC Philadelphia Site for reducing ship and submarine vulnerability to acoustic detection and ordnance.

  - NSWC Carderock Division (White Oak Site):[1,2,3,4] The replication of the truly unique full scale machinery magnetic signature measurement facility which is used to minimize ship and submarine vulnerability to magnetic detection and ordnance. It should be noted. that if the White Oak site is to be closed. due to the one-of-a kind characteristics of the Magnetic Fields Measurement Facility, a replication of this capability will have to be accommodated elsewhere.

---

[1]See Attachment II, DJD 08, Questions 1a, b, c, 2.

[2]See Attachment II, DJD 010, Questions 3, 4.

[3]See Attachment II, DJD 025, Question 1.

[4]See Attachment II, DJD 026, Questions 1, 2.

Along with the loss of Annapolis technical personnel, the below capability losses will be incurred:

* The ability to conduct land based high pressure acoustic measurements[1,2,3,4] of submarine ballasting and related piping systems.

* The laboratory capability to identify, assess, specify, validate, and direct development of technologies in the areas of cryogenics,[5] superconductivity, and power semiconductors.

* The Navy's laboratory capability to specify and validate combat system and crew cooling equipment which is responsive to the accelerated worldwide CFC production ban. Beginning in 1996, the Navy will be using a strategic stockpile of CFC, which will be depleted rapidly if ships cooling system developments permitting non-CFC[6,7,8,9,10,11,12] refrigerants are delayed or terminated.

---

[1]See Attachment II, DJD 07, Question 2.

[2]See Attachment II, DJD 014, Question 1.

[3]See Attachment II, DJD 015, Question 2.

[4]See Attachment II, DJD 016, Question 1.

[5]See Attachment II, DJD 014, Question 2.

[6]See Attachment II, DJD 08, Questions 4a, b.

[7]See Attachment II, DJD 014, Question 3.

[8]See Attachment II, DJD 016, Question 2.

[9]See Attachment II, DJD 017, Question 1.

[10]See Attachment II, DJD 021, Questions 1, 2.

[11]See Attachment II, DJD 023, Questions 1, 2, 3, 4.

[12]See Attachment II, DJD 024, Question 1.

- The loss of near-term availability of the Deep Ocean Vehicle Simulation Facility[1,2,3,4] (as a result of it being moth balled) to validate the performance and safety of operating machinery and small manned submersibles.

  "Moth balling" is defined herein as the status between the NAVFAC P-164 (Detailed Inventory of Naval Shore Facilities) terms of "standby" and "abandon", i.e. "reserve[5] status.

In addition to the technical issues on the closure of the NSWC Annapolis Detachment, the non-technical impacts include:[6]

- The elimination of the potable water[7,8] supply for the North Severn Navy housing for the Annapolis Naval Station

- The relocation of the tenancy of the Joint Spectrum Center Headquarters[9,10] (a non-DoN Command with the Air Force serving as the Executive Agent for the Joint Chiefs of Staff, until FY96 when DISA becomes the Executive Agent)

- The elimination of a long term synergistic relationship with the U.S. Naval Academy faculty and midshipmen.

- The elimination of the fuel storage and refueling[11] site for the Naval Academy's Yard Patrol craft.

B. <u>Special Site (NIKE Site) Closure Impact Assessment</u>:

The closure of the Special Area (NIKE Site) has little relationship to the first portion

---

[1]See Attachment II, DJD 04, Questions 1, 2, 3, 4, 5.

[2]See Attachment II, DJD 07, Question 1.

[3]See Attachment II, DJD 011, Question 3.

[4]See Attachment II, DJD 015, Questions 1a, b.

[5]See Attachment II, DJD 04, Question 3.

[6]See Attachment II, DJD 010, Questions 1, 2.

[7]See Attachment II, DJD 07, Question 3a.

[8]See Attachment II, DJD 011, Question 2.

[9]See Attachment II, DJD 02, Question 2.

[10]See Attachment II, DJD 04, Question 6.

[11]See Attachment II, DJD 07, Questions 3b, c.

of this scenario. The BRAC 91 actions provided for the migration of the functional responsibilities for the majority of the facilities residing at this special site to the NSWC Carderock Site, i.e., the migration of the Materials R&D functions. The personnel located at the site and the supporting scientists and engineers are all included in the Carderock Site manning, per the BRAC 91 actions and the BRAC 95 guidance.

The specialty facilities located at the Special Site (NIKE Site) that do not have any industrial or other US Navy counterparts include:

* Thermal Spray for machinery element restoration, which is used for the development and modification of processes, procedures, and materials for reducing Fleet maintenance costs and increasing Fleet readiness through lower maintenance and down-times on machinery related systems.

* Polyurethane processing for the prototyping and producibility of unusual and complex compounds and/or fixtures.

* Reactive Metal Spray Forming, which is used to utilize less expensive titanium and other metal alloys for near net shape machinery components.

Due to the non-availability of equivalent facilities and the BRAC 91 directed actions, this scenario requires these capabilities be reconstituted at Carderock. Other identified required facility realignments include:

* Sea Survival / Life Saving Systems - exist to investigate, identify, and correct the causes of product failures and poor operational performance in the area of sea safety equipment. Organized in direct response to requests from NAVSEA in order to curb sea safety equipment problems, the group works closely with materials engineers, as well as the FBI and Navy investigators, to ensure that sea safety equipment will function properly and effectively when it is needed.

* Intermediate Scale Fire Testing[1,2] - established in 1983 by the CNO Executive Board to conduct small & intermediate scale fire research in order to save lives and reduce the damage caused by fire. Fire is as prevalent during peacetime as it is during war. Passive fire safety, preventing the start and spread of the fire, is a prime concern of this group. The synergy between their work and the progress of material technology greatly assists their progress. As organic composite materials are introduced aboard ships and submarines, the resistance to and performance in fire conditions is a key factor in the suitability decisions regarding the use of these materials.

The Sea Survival/Life Saving Systems will be moved to the NSWC Philadelphia site and the Intermediate Scale Fire Testing, without the personnel, will be moved to the NRL Chesapeake Bay facility.

---

[1]See Attachment II, DJD 03, Question 2.

[2]See Attachment II, DJD 09, Questions 2a, b.

Table 1-B: Point of Contact Information. Please identify a knowledgeable point of contact familiar with the information relating to this closure/realignment scenario whom the BSAT can contact to answer any questions or to provide additional information as required. This point of contact must also be familiar with the location and name of the person responsible for maintaining any supporting documentation relating to this data call response.

Name:	CDR L. R. Walker, USN
Organization/Code:	OIC, NSWC-Annapolis, Code 003
Office Phone Number:	410-293-2536 (DSN: 281-2536)
Fax Number:	410-293-2638 (DSN: 281-2638)
Home Phone Number:	410-757-0449

Table 1-C: Losing/Gaining Bases Involved in Scenario. Complete the table on the next page to identify "bases" involved in the closure/realignment scenario. Note that the term "**Losing Base**" refers to host activities, independent activities or other activities specifically identified in the Scenario Development Data Call tasking which are being reduced in size, i.e., closing or being realigned. The term "**Gaining Base**" refers to host or independent activities which will be receiving sites for functions/personnel transferred from losing base(s). For example, a losing base is the activity referred to in the data call tasking, i.e., a Naval Station,

Table 1-C: Losing/Gaining Bases Involved in Scenario. Complete the table on the next page to identify "bases" involved in the closure/realignment scenario. Note that the term "**Losing Base**" refers to host activities, independent activities or other activities specifically identified in the Scenario Development Data Call tasking which are being reduced in size, i.e., closing or being realigned. The term "**Gaining Base**" refers to host or independent activities which will be receiving sites for functions/personnel transferred from losing base(s). For example, a losing base is the activity referred to in the data call tasking, i.e., a Naval Station,Hospital, etc. **Individual tenants should not be separately listed on this table**, e.g., Branch Medical Clinic, Personnel Support Detachment, etc. Individual tenants will, however, be specifically identified in subsequent tables in the data call. The third column of the table should be used to identify relevant information regarding workload/missions to be transferred. For example, entries in this column should be short phrases such as, "missile workload", "ships", "F-14 squadrons", "tenants", etc., or to provide other clarifying information. This third column need only be completed to identify major components of the closure/realignment scenario, and should not be used to list all tenant names, etc.

Table 1-C: Losing/Gaining Bases Involved in Scenario

Losing Base(s)	Gaining Base(s)	Workload/Missions Transferring
NSWC-Annapolis/Nike	NSWC-Philadelphia	Sea Survival/Life Saving Sys. Machinery R&D. Systems Integration and Acquisition Support including Machinery Acoustic Silencing (See Attached Table for description of relocated facilities)
NSWC-Annapolis	NSWC-Carderock	Information Systems R&D[1]
NSWC-Annapolis/Nike Site (BRAC 91 Function Realignment To Carderock)	NSWC-Carderock	Materials & Processing: Thermal Spray; Polyurethane Processor; & Reactive Metals Spray Forming Facilities
NSWC-Annapolis	NSWC-White Oak	Electromagnetic Signatures and Silencing Systems (See Attached Table for description of relocated facilities)[2]
NSWC-Annapolis/Nike Site	Naval Research Laboratory Chesapeake Beach Detachment	Intermediate-Scale Fire Testing[3]
NSWC-Annapolis	Annapolis, MD-Leased Space	Joint Spectrum Center[4]

Note: If an activity/function will be relocated into leased office space, please note this fact under the column, Gaining Base, e.g., "Washington, DC - Leased Space".

[1]See Attachment II, DJD 08, Questions 3a, b.

[2]See Attachment II, DJD 08, 010, 025, 026.

[3]See Attachment II, DJD 03, 009.

[4]See Attachment II, DJD 02, 004.

Table 1
Seven Major Facilities Relocated from Annapolis

Facility Name	One-Time Unique Move Cost	Receiving Site	Description // Rationale
Advanced Shipboard Auxiliary Machinery Facility	$2.2M	Philadelphia	Laboratories, test bays and equipment for conduct of R&D, integration, and experimental test and evaluation on compressed air systems, heat exchangers, ventilation systems, fluid systems, piping, valves, hydraulic steering and diving systems, fresh water production, and composite machinery for surface ships and submarines. // Retains critical technical capability rated highest in value at Annapolis.
Electric Power Technology Facility	$3.0M	Philadelphia	Laboratories, test bays, simulation equipment, multiple interconnected electrical power sources, loads and transmission equipment for conduct of R&D, integration and experimental test and evaluation of surface ship, submarine, and aircraft carrier electric power generation, conversion, and distribution systems and equipment, and solid state power device R&D. // Retains the critical test capability rated second in value at Annapolis.
Advance Electric Propulsion Development Facility	$2.3M	Philadelphia	Laboratory, test bay, and equipment to allow R&D and experimental evaluation of full scale and subscale electric propulsion components and systems up to 3000 horsepower. Includes prime movers, loads, support equipment, and experimental motors and generators. // Retains critical propulsion R&D capability and complements planned full scale electric drive systems testing in Philadelphia.
Pulsed Power Facility	$2.0M	Philadelphia	Experimental facility including staging and assembly area, prime power and fuel system, high voltage grounding grid, electromagnetic interference shielding, pulse forming networks, transmission lines and power conditioning for R&D and experimental testing and integration of pulsed power electrical sources for future weapons systems. // Continue Navy's only integral capability to conduct R&D for future weapons systems powering.

Facility Name	One-Time Unique Move Cost	Receiving Site	Description // Rationale
Advanced Propulsion Machinery Facility	$10.0M	Philadelphia	Consists of a full scale submarine shaftline, full scale submarine shaft seal test facility, and a full scale composite shaft tracer/bending facility including instrumentation, controls and required cooling, lubrication, and other services. // Allows retention of a unique Navy capability to conduct full scale submarine shaftline component and system R&D and qualification/certification.
Machinery Acoustics Silencing Facility	$4.9M	Philadelphia	An R&D facility consisting of three cells for reduction of submarine machinery acoustic noise from fans, pumps, compressors, motors, hydraulics, and other machinery components. Includes acoustic wall treatment, massive seismicly isolated floor, specialized low noise support systems, instrumentation, resilient mount laboratory, and many low noise prototype components. // Retains the Navy's only integral capability to conduct R&D, evaluate, specify, and certify machinery acoustic performance in a land based facility, thus avoiding the prohibitive cost of doing so at sea.
Magnetic Fields Laboratory[1]	$5.0M	White Oak	A very specialized facility including a totally non-magnetic four story building equipped for operation of full scale minesweeper machinery and measurement of its acoustic signature as well as that of large scale models of submarines and surface ships. The capability of simulating ambient magnetic conditions of any location on Earth is included. // Retains the only existing critical capability to measure and certify the magnetic signature of minesweeper machinery.

[1]See Attachment II, DJD 08, 010.

Intermediate-Scale Fire Testing[1] to the Naval Research Laboratory, Washington, DC, where this will place at one activity all non-laboratory fire testing functions, which can be conducted at NRL, Chesapeake Beach Detachment. The existing fire testing facilities at NRL do not duplicate and are not adequate for the intermediate-scale fire testing work indentified in this scenario response. The Fire Research Enclosure (Fire 1), located at the Chesapeake Beach Detachment, NRL) and the ex-USS SHADWELL (located at Mobile, AL) are extremely large-scale custom-built, and specialized facilities dedicated to validate and certify full-scale ship fire scenarios for active and passive fire protection systems. The other facilities at NRL are large-scale burn chambers, which are not suitable to perform intermediate scale fire testing without modification. However, these burn chambers are necessary in their present configurations to meet existing Navy requirements. The other facilities at the Chesapeake Beach site are primarily open building spaces, which do not contain the specialized intermediate-scale equipments being transferred from NSWC, Carderock Division, Special Area (NIKE Site) as identified in the Scenario response. This specialized equipment includes: a room-sized calorimeter, a large-scale customized variable heat rise furnace, and two intermediate scale burn chambers containing accessories, controls and associated instrumentation need to operate them. The unused building space at NRL/CBD can be modified to house the aforementioned specialized equipment, that is necessary to execute the Intermediate-scale fire testing function/requirement. The intermediate-scale fire testing is a cost-effective means to screen and select fire protection system alternatives, which are then validated and certified with associated higher test costs in the full-scale NRL facilities (Fire-1 and ex-USS SHADWELL).

Sea Survival/Life Saving Systems to NSWC, Philadelphia, where the T&E and ISE of sea survival/life saving equipment can be conducted in conjunction with damage control/CBR protection function in place at the Philadelphia site.

Elements of **Materials & Processing** to NSWC, Carderock, which includes the thermal spray, polyurethane processing, and reactive metal spray forming facilities, would be colocated with the existing Materials & Processing function in the Ship Materials Technology Facility (BRAC-91 action) at the NSWC, Carderock Site.

Information Systems R&D[2] capability to NSWC-Carderock consisting of a computer complex and personnel physically residing at the Carderock site, but assigned to the Annapolis site Machinery R&D Directorate.

Joint Spectrum Center[3] is a tenant at the NSWC Annapolis Site. None of the employees are associated with the NSWC Annapolis Site functions.

---

[1] See Attachment II, DJD 03, 009.

[2] See Attachment II, DJD 08.

[3] See Attachment II, DJD 02, 04.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

Complete a separate Enclosure (2) - Losing Base Questions for each "losing" base involved in the closure/realignment scenario. **Make additional copies of this enclosure as necessary.** Tables included in this enclosure are 2-A, 2-B, 2-C, 2-D, 2-E, and 2-F. Enter the Losing Base name in the block below:

Losing Base:	NSWC-Annapolis

The first five tables in this enclosure will be used to identify the movement and/or elimination of military billets and civilian positions. Data entered in Tables 2-B and 2-C will be transferred to Table 2-D and will be used to reconcile manpower totals at the losing base. The entire losing base workforce as shown on the annotated copy of the Base Loading Data Attachment must be accounted for in the Table 2-D reconciliation.

General Note on Tables 2-A and 2-B. **A separate copy of both of these two tables must be completed for each pair of activities between which transfers of personnel, equipment or vehicles will occur.** That is, a single enclosure (1) response may require multiple copies of tables 2-A and 2-B. For example, if the scenario involves the closure of NAVSTA A and relocation of personnel to NAVSTA B and NAVSTA C, then two tables will be completed, one for transfers from NAVSTA A to NAVSTA B and one for transfers from NAVSTA A to NAVSTA C. Note that for purposes of completing these tables, Losing Bases and Gaining Bases are defined as a host activity, independent activity or other activity specifically identified in the data call tasking. Separate tables will not be prepared for individual tenant activities, instead, tenant numbers will be incorporated into the table for the Losing Base. Be certain to identify the name of both the gaining and losing base. Make additional copies of these two tables as necessary.

Table 2-A: Disposition of Personnel - Detail Data. Please review the Base Loading Data Attachment and annotate any corrections, as necessary. Using the data contained in the Base Loading Data Attachment, complete the table on the next page. For both the host and tenant activities, identify, by UIC, the number of billets/positions being relocated to the identified receiving site. Each UIC shown as a separate line on the Base Loading Data Attachment must be separately listed in Table 2-A. Drilling reservists will not be included in officer and enlisted billet fields. Military students must be separately distinguished from officer and enlisted billets in COBRA. The Base Loading Data Attachment includes an identification of military students. Annotate the Base Loading Data Attachment to identify any additional students not currently shown, and include these corrected numbers in Table 2-A. Numbers of students are expressed as the estimated "Average On-Board" (AOB) which would be trained at the losing base in FY 2001 if a closure/realignment did not occur. Non-DON tenants must also be reviewed and a determination made as to whether the organization will be relocated.

Relocating non-DON tenants must be included in the number of billets/positions identified as being transferred (and manpower totals adjusted accordingly). Disposition of tenant and reserve activities must be adequately coordinated.

Table 2-A(1): Disposition of Personnel - Detail Data

From Losing Base: NSWC-Annapolis

To Gaining Base: NSWC-Philadelphia

UIC	Name	Type	1996	1997	1998	1999	2000	2001	Total
61533	NSWC-Annapolis	Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	107	140	14	0	0	0	261
		Mil Stu	0	0	0	0	0	0	0
	TOTAL	Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	107	140	14	0	0	0	261
		Mil Stu	0	0	0	0	0	0	0

Table 2-B: Disposition of Personnel and Equipment - Summary. Complete the table on the next page to summarize the transfer of equipment and personnel. Personnel numbers must match summary data shown in Table 2-A. Remember that, as with Table 2-A, a separate Table 2-B must be completed for each combination of losing/gaining bases. The following explanatory information is provided.

a. Disposition of Personnel. Transfer the summary relocation data shown at the bottom of the corresponding Table 2-A.

b. Disposition of Equipment. Identify the transfer of equipment and vehicles from one activity to another. **Do not include equipment which will be excessed.** The following explanatory notes are provided:

Mission and Support Equipment: The terms "Mission" and "Support" are provided as broad general terms to distinguish between the types of equipment which will be shipped. In terms of the COBRA moving algorithms, whether equipment is listed under "Mission" or "Support" is irrelevant. Consequently, more attention should be given to identifying the total number of tons which will need to be shipped, rather than spending too much time refining the breakout of mission vs. support equipment. Note that these figures should not include administrative equipment, which is already included in COBRA algorithms at the rate of 710 pounds per military billet or civilian position being relocated.

Light Vehicles: Light vehicles are defined as vehicles that will be **driven** to the new location.

Heavy Vehicles: Heavy vehicles are defined as vehicles which will be **shipped** to the new location.

Remember to complete the "Supporting Data" section which immediately follows the table.

Table 2-B: Disposition of Personnel and Equipment - Summary.[1,2]

Table 2-B(1): Disposition of Personnel and Equipment - Summary

From Losing Base: NSWC-Annapolis							
To Gaining Base: NSWC-Philadelphia							
	1996	1997	1998	1999	2000	2001	Total
Officer Billets	0	0	0	0	0	0	0
Enlisted Billets	0	0	0	0	0	0	0
Civilian Positions	107	140	14	0	0	0	261
Military Students	0	0	0	0	0	0	0
Tons of Mission Equipment	290	910	330	0	0	0	1530
Tons of Support Equipment	40	53	5	0	0	0	98
Number of Light Vehicles	0	0	0	0	0	0	0
Number of Heavy Vehicles	0	0	0	0	0	0	0

[1]See Attachment II, DJD 011, Question 1.

[2]See Attachment II, DJD 022, Questions 1, 2.

Type of Equipment/Vehicles	Rationale for Relocating
Individual support equipment (97 tons)	Support equipment includes equipment each person uses in the course of their new job, such as computers, printers, books, reference documents, etc. It is calculated using an estimate of 750 lbs/person.
Sea Survival/Life Saving Equipment (1 ton)	Provides assurance of specification compliance, modification/alteration to correct fleet deficiencies, QPL testing/certification, evaluates commercial equipment, and develops new marine equipment. Loss of capability results in reduced safety for sailors/marines and increased risk for loss of life.
Advanced Propulsion Machinery Facility	(see attached narrative)
Advanced Shipboard Auxiliary Machinery and Pulsed Power Facilities	(see attached narrative)
Advanced Electric Propulsion Development Facility and Electric Power Technology Lab	(see attached narrative)
Machinery Acoustic Silencing Laboratory	(see attached narrative)

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

JUSTIFICATION FOR THE RELOCATION OF THE ADVANCED PROPULSION MACHINERY FACILITY FROM ANNAPOLIS SITE TO PHILADELPHIA SITE

Value/Benefit to Navy DoD. Propulsion machinery system are the engines (non-nuclear), reduction gears, shafting, bearings and associated components which provide mobility, range, and endurance to surface ships, submarines and craft. These systems have a very large impact on ship readiness, sustainability, signatures, energy consumption, potential for water/air pollution, and cost. For example, on surface ships propulsion machinery systems account for about 25% of acquisition cost, 20% of maintenance, and 30% of crew manpower. This technical capability supports the Joint Mission Areas of strike, littoral, strategic deterrence, strategic/sealift, protection, and forward presence. The Navy gains significant benefits from this technical capability with "smart" buying of propulsion machinery because of the impact on mission performance, cost, and crew skills and size.

Propulsion machinery systems are typically competitively procured as contractor furnished equipment by the shipbuilder and are a collection of components from a number of manufacturers. There is little standardization or system level engineering capability within industry and virtually no facilities for concept and equipment evaluation and certification.

For propulsion machinery systems, the Navy establishes technical requirements, assesses and directs technology development, certifies and validates hardware, and provides support through the equipment life cycle. This technical capability provides the facilities, experience, and knowledge base to establish and validate technical requirements to assure "smart" acquisitions, affordable operations and maintenance, and on-going problem resolution/system upgrade capabilities. The knowledge base contributes to establishing Navy program priorities and policies.

Statistics. Science & Technology (4 DWY); Acquisition Engineering (25 DWY) for a total of 29 DWY's.

Cumulative Experience Base. This capability has 25 Scientists, Engineers and technicians with a cumulative experience base of greater than 400 years at Annapolis.

Facilities and Equipment. Advanced Propulsion Machinery Facility; Engine Development Laboratory; Shaftline Facility; Composite Shaft; Shaft Seal;and Thrust Bearings.

Navy/DoD Imperatives. This capability ensures that ships and ship systems can be designed, constructed, safely operated and maintained with the best and most suitable shipboard propulsion machinery systems and components to achieve efficiency, weight & volume, power, signature, survivability and affordability (acquisition and life cycle) performance goals of the Navy. This site provides the Navy with Scientists and Engineers that are not influenced by proprietary or profit motives to improve, integrate and evaluate ship propulsion machinery systems.

Future Requirements. Intercooled and Recouperated LM2500 (ICR) Lead ship SSN-21 Sea Trial Support; SSN-688 Improved Shaft Seal; NSSN. New more efficient, affordable propulsion machinery systems and equipments to meet Navy requirements for reduced cost, increased combat readiness, and sustainability on 21st century Navy ships and submarines with smaller crews and platforms with limited infrastructure support.

Inherently Government Functions. (1) A "Smart Buyer" capability by providing the RDT&E necessary to transform Navy requirements into technical/procurement specifications (military and commercial), certification criteria and validation of designs for integrated naval propulsion machinery systems and components for the fleet; (2) Rapid response to operational problems; (3) Ensure technological superiority and avoid technological surprise by translating new technologies and rapidly changing threats to system change; and (4) Objective/unbiased direction, evaluation, and monitoring of contractors. These efforts are categorized as: 3% Sponsor, 76% Conduct, and 21% Appraise.

Customers. Major customers of this site in FY93 were NAVSEA, ONR, and Other Navy.

Alternatives. No other activity currently provides this Machinery R&D, Systems Integration and Acquisition Support capability for shipboard propulsion machinery systems and components. Parts of this technical capability exist at commercial activities, but currently there is no single source that can provide the propulsion machinery systems integration expertise coupled with the critical facilities required to develop, design, assess and specify naval shipboard propulsion machinery systems to meet the stringent requirements for 21st century ships and submarines.

JUSTIFICATION FOR THE RELOCATION OF ADVANCED SHIPBOARD AUXILIARY MACHINERY FACILITY AND PULSE POWER FACILITY FROM ANNAPOLIS SITE TO PHILADELPHIA SITE

Value/Benefit to Navy DoD. This Annapolis Site technical capability ensures that the Navy will continue to have the best ships and submarines in the world powered by the best HM&E Systems in the world. Technical work in auxiliary machinery systems focuses on the development and specification of affordable shipboard systems and components with enhanced performance and efficiency attributes. Full spectrum shipboard auxiliary machinery R&D, systems integration and acquisition support capabilities provide the critical expertise and facilities which are integrated with other HM&E technical capabilities (Propulsion Machinery and Electrical Machinery) at the Annapolis Site to meet demanding Navy requirements for reduced costs, and increased combat readiness and sustainability. As an example, the loss of the Annapolis Site would compromise the ability to integrate emerging mechanical and electrical technologies into cost-effective developments such as the Affordability Through Commonality and the Advanced Surface Machinery Programs: the Standard Machinery Control System: auxiliary elements of the Autonomic Ship; and the Electrothermal Gun. Annapolis facilities and expertise also ensure SUBSAFE machinery including seawater piping and components, and hydraulic steering and diving systems, and are integral to the development of affordable future pulsed-power strike and self-defense systems which exploit installed ship power such as the electric gun in a combined Dahlgren-Annapolis program.

Statistics. Science & Technology (10 DWY); Acquisition Engineering (98 DWY) for a total of 108 DWY's.

Cumulative Experience Base. This capability has 104 Scientists, Engineers and technicians and a cumulative experience base of greater than 2000 years at Annapolis.

Facilities and Equipment. Advanced Shipboard Auxiliary Machinery Facility: Fiber Optic Sensor Technology Laboratory; and Pulsed Power Systems Facility.

Navy/DoD Imperatives. Auxiliary machinery systems are essential elements in Naval missions. This technical capability certifies and validates the technical standards that allows ships to operate in all climates, remain at sea for extended periods, operate damaged when needed and maintain crew safety. Auxiliary machinery and pulse power are key elements in the full spectrum mission of the Carderock Division of the NSWC. This technical capability is the Navy's source of expertise and is required for other NSWC technical capabilities: Stealth, Propulsion, Electrical, Hull & Deck Machinery Systems Componenets, Hull Forms & Propulsors, Small Surface & Undersea Vehicles, Environmental Quality Science & Systems, Mine Warfare Systems, Amphibious Warfare Systems, Deep Ocean Technology, and Machinery Monitoring and Control. This site provides the Navy with Scientists and

Engineers that are not influenced by proprietary or profit motives to improve, integrate and evaluate ship/submarine auxiliary machinery systems. This capability allows the Navy to purchase new technology and systems as a "smart buyer" and to make system level decisions on affordable operation and maintenance policy which directly influences readiness.

Future Requirements. Lead ship SSN-21 Sea Trial Support; NSSN; DDG-51 Flight II, LPD-17, Next Generation Surface Combatant. This capability is vital to the Navy of the future which demands auxiliary systems that will operate longer with less maintenance and downtime, meet strict technical guidelines, fulfill budget and manning reductions and effectively counter and contain threats that new and deadly weapons pose to the fleet. The substantial investment that auxility machinery systems and components represent over a ships life cycle (14% by weight, 23% by cost and 30% of total maintenance hours) is compelling reason for maintenance of an organic auxiliary machinery systems technical capability.

Inherently Government Functions. (1) A "Smart Buyer" capability by providing the RDT&E necessary to transform Navy requirements into technical/procurement specifications (military and commercial), certification criteria and validation of designs for integrated naval propulsion machinery systems and components for the fleet; (2) Rapid response to operational problems including in times of military crisis (technical analysis and fitness for purpose assessment of vital/critical ship systems); (3) Ensure technological superiority and avoid technological surprise by translating new technologies and rapidly changing threats to system change; and (4) Objective/unbiased direction, evaluation, and monitoring of contractors. These efforts are categorized as: 21% Sponsor, 66% Conduct, and 13% Appraise.

Customers. Major customers of this site in FY93 were NAVSEA, ONR, and Other Navy.

Alternatives. No other activity currently provides the Machinery R&D, Systems Integration and Acquisition Support capability for shipboard auxiliary machinery systems and components. Parts of this technical capability exist at commercial activities, but currently there is no single source that can provide the auxiliary machinery systems/components integration expertise and the critical facilities required to develop, design, assess and specify naval shipboard auxiliary machinery systems to meet the stringent requirements for 21st century ships and submarines.

JUSTIFICATION FOR THE RELOCATION OF THE ADVANCED ELECTRIC PROPULSION DEVELOPMENT FACILITY AND THE ELECTRIC POWER TECHNOLOGY LABORATORY FROM THE ANNAPOLS SITE TO THE PHILADELPHIA SITE

Value/benefit to Navy DoD. Advanced technology such as superconducting and permanent magnet electric drive and integrated power systems will provide ship architectural advantages, improved commonality of system elements will reduce logistic support burden, intelligent distribution systems will enhance passive survivability, improved warfighting will result from assuring continuity of energy supply to combat systems, and improved energy efficiency will result from deriving electric power from propulsion engines and/or fuel cells. This technology will be required to meet platform affordability, survivability, mobility, and performance. The Annapolis Site provides a unique combination of facilities and expertise to conduct research and development, experimental evaluations and simulations for electrical machinery systems and components in support of the Navy, other DOD components, and the Maritime Industry. The functions carried out under this technical capability are inherently governmental in that work includes exploration and development of new concepts, validation of technical requirements, assessment of feasibility and practicality of proposed solutions, development of systems level solutions and transition of DOD technology to the private sector. This forms the basis for being the Navy's expert for electrical machinery and gives the Navy the ability to make smart acquisition decisions.

Statistics. Science & Technology (63 DWY); Acquition Engineering (25 DWY) for a total of 88 DWY.

Cumulative Experience Base. 82 Scientists Engineers and Technicians with an experence base of 1700 years.

Facilities. Advanced Electric Propulsion Development Facility; Electric Power Technology Facility.

Navy/DoD Imperatives. The Annapolis Site is pursuing congressionally-mandated developments in circuit breakers and MHD. The unique combination of expertise and facilities are used by both DOD and others for critical developments such as the S9G electric plant for NSSN, the Integrated Power System for SC-21,as well as support for SEAWOLF and AEGIS ship construction programs and developments for in service fleet assets. This capability assures that ships and ship systems can be designed constructed, operated, and maintained with the best and most suitable electrical machinery and components to achieve efficiency, size, power, signature, and affordability (acquisition and life cycle) performance goals of the Navy. This site provides the Navy with scientists and engineers that are not influenced by proprietary or profit motives to improve, integrate, and evaluate ship/submarine electrical machinery systems. Under "Project Reliance," the Annapolis Site is pursuing cooperative development ($31M Navy contract) of advanced power semiconductor devices and applications with the Air Force, NASA, Army, ARPA, and the Electrical Power Research institute. Initiatives in electric propulsion include joint efforts with shipyards and key industrial suppliers. Cooperative efforts in the areas of superconducting magnets, magnetic energy storage, advanced circuit breakers, permanent magnet motors, and new power converter topologies are being pursued at the Annapolis Site, and Data Exchange Agreements with foreign Navies (MWDDEA-N-83-G-4233) are actively utilized.

Future Requirements. New reduced weight,volume, and cost electric power machinery systems will be required to meet the Navy's requirements for affordable, combat damage-tolerant, and efficient 21st century fleet assets with smaller crews and limited infrastructure support. The Navy will also require technical leadership in advanced power technologies which are even now being applied to mine sweeping and ultra high power sonar systems.

Inherently Governmental Functions. The tasks of establishing, certifying, and validating system performance is supported by a broad array of capabilities including full-scale testing of ship electric power machinery, rapid-prototyping of system conceptual designs, component fabrication technology, and simulation-based extrapolation of test results to predict performance of alternative designs and emerging technologies. Specific support services offered by the Annapolis Site with respect to electrical machinery include: (a) development of flexible, integrated electrical machinery systems to accommodate advanced hull forms, propulsor techniques, power sources and performance requirements, (b) maximum utilization of affordable commercial components and transfer of military technology to the industrial manufacturing sector, and to other governmental agencies, and (c) performance analysis of electrical machinery systems and components.

Customers. Primary customers are ONR and NAVSEA, secondary sources include NAVAIR, ARPA, MSC, DNA, private industry and shipyards along with cooperative research with Tri-Services/NASA.

Alternatives. No other activity provides the full spectrum machinery R&D, systems integration support capability for shipboard electrical machinery systems and components. Complete loss of facilities would likely result in a long term loss of technical expertise derived from hands-on experimentation with emerging technology and complicated systems.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

JUSTIFICATION FOR THE RELOCATION OF THE MACHINERY ACOUSTIC SILENCING LABORATORY FROM THE ANNAPOLIS SITE TO THE PHILADELPHIA SITE

Value/Benefit to Navy DoD. This Carderock Division technical capability ensures the stealth of current and future Navy ships. Responding to Naval Operational Requirements, machinery silencing products and system designs are conceived, developed and brought to fleet implementation to ensure that all Navy ships cost effectively meet operational acoustic signature objectives. The staff of scientists and engineers at the Annapolis Site is highly educated and experienced in all aspects of propulsion and auxiliary machinery acoustics. Supported by an extensive collection of machinery acoustic performance data and world class facilities for acoustic evaluation of full scale machinery components at actual shipboard operating conditions, this group conducts R&D producing silencing innovations for applicaton in our most advanced operational and new-design surface ships and submarines. Machinery silencing innovations continue to be a key to achievement of stringent acoustic stealth objectives, with emphasis on affordability.

Statistics. Science & Technology (6 DWY); Acquisition Engineering (41 DWY) for a total of 47 DWY's.

Cumulative Experience Base. This capability has 53 Scientists, Engineers and Technicians with 47 DWYs and a cumulative experience base of greater than 1400 years at Annapolis.

Facilities and Equipment. Our major, world class facilities, including the Machinery Acoustics Silencing Laboratory, provide the Navy's only capability to conduct R&D using full scale prototypes installed in air, gas, ventilation, fresh water, sea water, and oil systems which duplicate the full range of submarine and surface ship system steady state and transient operating conditions and parameters.

Navy/DoD Imperatives. The Annapolis Site has been tasked to provide the necessary machinery acoustic silencing technology and hardware to help ensure that our Navy's submarines and surface ships meet current and future acoustic operational requirements. Machinery system silencing platform design support is provided and silencing products are conceived, developed and implemented in the fleet to ensure that all Navy ships meet operational acoustic goals and requirements.

Future Requirements. New more cost effective machinery silencing technology and hardware to meet Navy operational requirements for both deep ocean, littoral and special warfare scenarios. Both nuclear and diesel foreign submarines, and mines will continue to impose an acoustic threat. Our Navy must remain acoustically superior to effectively meet these threats.

Specific support will be required to meet NSSN design requirements and to support post lead ship machinery acoustic issues.

Inherently Government Functions. Advising NAVSEA and PEO organizations on machinery acoustic design and development, and on submarine and surface ship acoustic design, construction and improvement issues is a uniquely Governmental "smart buyer", appraisal function performed by the Annapolis Site based on the perspective gained from conduct of current R&D tasks and on extensive experience of personnel. Specifications for R&D product implementation, technical guidance, design evaluation and hardware trouble shooting services are routinely provided to support silencing technology transition from the laboratory to the fleet. Objective technical support is provided to Navy acquisition managers in oversight of vendor and shipbuilder contract performance. The Annapolis Site specializes in R&D product developments that address Navy machinery acoustic stealth requirements which are not encountered in the commercial sector. Phase III categorized these efforts as: 3% Sponsor, 67% Conduct, and 24% Appraise.

Customers. Major customers of this site in FY93 were NAVSEA, ONR, and Other Navy.

Alternatives. The Annapolis Site is the international leader in Machinery Silencing Technology. There is no other assembly of experienced technical experts and facilities capable of developing and assessing the quietness of full-scale machinery at system operating conditions. For quiet machinery component and acoustic treatment development, other government and private sites lack the demonstrated, machinery specific Research and Development capability of the Annapolis Site. No other activity has the experienced personnel, database and specialized full-scale test facilities necessary to address the full range of propulsion and auxiliary machinery component and piping system noise issues faced in ship and submarine operation and design. Machinery silencing for Navy ships is a unique field learned by participation and by exchange of ideas within a stable workforce of senior and junior professionals. At Annapolis, synergistic benefits are realized by development of solutions to machinery acoustic issues involving both submarines and surface ships and the full spectrum of machinery component types.

JUSTIFICATION FOR RELOCATING THE SEA SURVIVAL/LIFE-SAVING SYSTEMS FUNCTION FROM THE NSWC CARDEROCK DIVISION, ANNAPOLIS DETACHMENT, SPECIAL AREA (NIKE SITE) TO NSWC PHILADELPHIA SITE.

Testing, evaluation, and in-service engineering of shipboard life-saving equipment and sea survival systems are conducted to insure compliance to Navy specifications and standards for life safety: recommended changes to specifications, drawings, technical manuals and other related documents pertaining to these equipments are developed; first article and quality conformance evaluations of life-safety equipment are conducted; Fleet problems are resolved and modifications/improvements to existing equipment are recommended; the suitability of nondevelopmental items are evaluated for Navy use; and design changes are recommended as required. This function also serves as an adjudicating activity in litigation and provides expert testimony. This type of testing requires environmental chambers, accelerated aging apparatus, and standard materials testing apparatus. Equipments evaluated include: life preservers, 25-man inflatable life boats, and other sea rescue equipments. The evaluation of these devices requires a large temperature/humidity controlled area of approximately 1000 square feet with a 15-foot wide access. This work encompasses considerable direct interaction with the Fleet and insures increased levels of safety and reduced risk of loss of life for sailors and marines.

Table 2-A(2): Disposition of Personnel - Detail Data

From Losing Base: NSWC-Annapolis

To Gaining Base: NSWC-Carderock

UIC	Name	Type	1996	1997	1998	1999	2000	2001	Total
61533	NSWC-Annapolis[1,2]	Officer	1	0	0	0	0	0	1
		Enlisted	0	0	0	0	0	0	0
		Civilian	2	0	0	0	0	0	2
		Mil Stu	0	0	0	0	0	0	0
	TOTAL	Officer	1	0	0	0	0	0	1
		Enlisted	0	0	0	0	0	0	0
		Civilian	2	0	0	0	0	0	2
		Mil Stu	0	0	0	0	0	0	0

[1]See Attachment II, DJD 011, Question 4.

[2]See Attachment II, DJD 018.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

Table 2-B(2): Disposition of Personnel and Equipment - Summary

From Losing Base: NSWC-Annapolis

To Gaining Base: NSWC-Carderock

	1996	1997	1998	1999	2000	2001	Total
Officer Billets	1	0	0	0	0	0	1
Enlisted Billets	0	0	0	0	0	0	0
Civilian Positions	2	0	0	0	0	0	2
Military Students	0	0	0	0	0	0	0
Tons of Mission Equipment	0	30	0	0	0	0	30
Tons of Support Equipment	0	0	0	0	0	0	0
Number of Light Vehicles	0	0	0	0	0	0	0
Number of Heavy Vehicles	0	0	0	0	0	0	0

Supporting Data for Table 2-B. Use the space below to list the types of Mission Equipment, Support Equipment, Light Vehicles and Heavy Vehicles identified as required to be relocated in Table 2-B and the rationale for relocating this equipment. Attach additional sheets as necessary.

Type of Equipment/Vehicles	Rationale for Relocating
Information Systems R&D Functions - None	
Ship Materials R&D Facilities	
Thermal Spray Facility (2 tons)	BRAC 91 realigned function to Carderock; Closure of Nike Site mandates relocation to Carderock Site.
Polyurethane Processor (5 tons)	BRAC 91 realigned function to Carderock; Closure of Nike Site mandates relocation to Carderock Site.
Reactive Metals Spray Forming Facilities (23 tons)	BRAC 91 realigned function to Carderock; Closure of Nike Site mandates relocation to Carderock Site.

STIFICATION FOR RELOCATING THE INFORMATION SYSTEMS[1] R&D FUNCTION)M ANNAPOLIS SITE TO THE CARDEROCK SITE

The Information systems R&D function develops network concepts and software for machinery control as well as other types of information transfer and access on a much larger scale. This well supported capability, with a small computer facility, is already located at the Carderock Site, although Annapolis has cognizance. No significant cost is involved in the "relocation".

JUSTIFICATION FOR RELOCATING THE MATERIALS & PROCESSING FACILITIES FROM NSWC, CARDEROCK DIVISION, ANNAPOLIS DETACHMENT, SPECIAL AREA (NIKE SITE) TO THE CARDEROCK SITE

The Ship Materials R&D functions were realigned during BRAC 91 to the Carderock Site. The field test facilities were retained at the Nike Site to minimize costs and associated disruptions. The closure of the Nike Site directs these critical facilities be moved to the Carderock Site, thereby being co-located with the remainder of the Materials R&D functions. No personnel realignments are required as they were included in the BRAC 91 actions.

[1]See Attachment II, DJD 08.

Table 2-A(3): Disposition of Personnel - Detail Data

From Losing Base: NSWC-Annapolis[1]

To Gaining Base: NSWC-White Oak

UIC	Name	Type	1996	1997	1998	1999	2000	2001	Total
61533	NSWC-Annapolis	Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	8	9	0	0	0	0	17
		Mil Stu	0	0	0	0	0	0	0
	TOTAL	Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	8	9	0	0	0	0	17
		Mil Stu	0	0	0	0	0	0	0

[1] See Attachment II, DJD 08, 010, 025, 026.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

Table 2-B(3): Disposition of Personnel and Equipment - Summary

From Losing Base: NSWC-Annapolis[1]

To Gaining Base: NSWC-White Oak

	1996	1997	1998	1999	2000	2001	Total
Officer Billets	0	0	0	0	0	0	0
Enlisted Billets	0	0	0	0	0	0	0
Civilian Positions	8	9	0	0	0	0	17
Military Students	0	0	0	0	0	0	0
Tons of Mission Equipment	0	60	0	0	0	0	60
Tons of Support Equipment	3	3	0	0	0	0	6
Number of Light Vehicles	0	0	0	0	0	0	0
Number of Heavy Vehicles	0	0	0	0	0	0	0

Supporting Data for Table 2-B. Use the space below to list the types of Mission Equipment, Support Equipment, Light Vehicles and Heavy Vehicles identified as required to be relocated in Table 2-B and the rationale for relocating this equipment. Attach additional sheets as necessary.

Type of Equipment/Vehicles	Rationale for Relocating
Magnetic Fields Laboratory (60 tons)	(see attached narrative)
Individual support equipment(6tons)	Enable engineer to function properly at new site
	(750 lbf/person)

[1]See Attachment II, DJD 08, 10, 025, 026.

JUSTIFICATION FOR THE RELOCATION OF MAGNETIC FIELDS LABORATORY SYSTEM FROM THE ANNAPOLIS SITE TO THE WHITE OAK SITE[1]

Value/Benefit to Navy DoD. This capability is focused toward the reduction of electromagnetic field signatures in the frequency range of D.C. through 10 KHz to acceptable threat levels. Responding to Navy Operational Requirements and Top Level Requirements, signature and silencing products are conceived, developed and brought to fleet implementation and ensure that all Navy ships have the lowest possible signatures compatible with the ship's mission. The technology is applicable to surface ships, submarines and minesweepers and includes R&D in addition to test and evaluation of silencing systems and acquisition support. The loss of the Annapolis site would result in the severe degradation of the Navy's capability and corporate memory in submarine electromagnetic silencing and surface ship EM signature exploratory development.

Statistics. Science & Technology (22 DWY).

Cumulative Experience Base. This capability has 16 Scientists, Engineers and technicians with a total of 22 DWYs and cumulative experience base of greater than 500 years at Annapolis. Note that 17 personnel are recommended to move with this capability.

Facilities and Equipment. Magnetic Fields Laboratory (MFL), located in Annapolis MD, is the measurement complex that provides a magnetically clean environment for accurate measurement of magnetic fields of full-sized machinery operating under load. This machinery includes equipment such as motors, generators, bow thruster motors, motor controllers, etc. for use aboard ships such as minesweepers. The facility will also be upgraded to accommodate measurement of large-scale physical models of ships such as the new attack submarine. These measurements are required in order to support degaussing coil design and calibration procedures. The MFL is the only facility in the U.S. that can provide these functions.

Navy/DoD Imperatives. NSWC has been chartered to provide electromagnetic signature measurement, analysis and control for surface ships and undersea vehicles. To that end, NSWC provides an integrated signature reduction program that includes: technical program management; accountability, validation and certification; signature measurements and modeling; analysis of results; development of signature-control techniques; ship and ship-system design; stealth operational guidance and tactics; training of forces ashore and afloat. Signature and silencing products are conceived, developed, brought to fleet implementation, and supported to ensure that all Navy ships have the lowest possible vulnerability to detection, classification and targeting. NSWC's in-house expertise ensures that the Navy is a "smart buyer" of signature-reducing technologies, that solutions are cost-effective, and that they are compatible with ship missions. Signatures addressed at Annapolis are in electromagnetics in the D.C. through 10 kHz range.

---

[1]See Attachment II, DJD 08, 010, 025, 026.

Future Requirements. Recent Navy experience has demonstrated the dangers of the rapid proliferation of mines among third-world countries. To minimize the vulnerability of Navy vehicles to these and similar threats, the Navy must continue to develop improved and affordable technologies for reducing the electromagnetic signatures of ships.

Inherently Government Functions. NSWC personnel respond to Navy Operational Requirements and Top-Level Requirements by conceiving, developing and bringing to fleet implementation signature and silencing products. About 25% of the effort is spent performing the Sponsor and Appraise functions: the remaining 75% Conduct portion allows NSWC to maintain an appropriate balance of in-house expertise and out-of-house support.

Customers. Major customers in FY93 included NAVSEA, ONR, PEO-SUB, OPNAV, CIA, private industry and other Navy. Programs include joint efforts with other countries under approved international agreements.

Alternative: Annapolis and White Oak both have technical capability in Electromagnetic (EM) Signature and Silencing Systems which include facilities and people. This combined group represents the Navy's only capability in this inherently Governmental function. Closing the Annapolis site and not transferring any of the functions will severely impact the Navy's EM Signatures and Silencing efforts. We propose to consolidate and relocate all capabilities including 17 people of the Magnetics Fields Laboratory at Annapolis with the complementary electromagnetic signature complex owned by the NSWCCD, located at the NSWCDD-White Oak site. The advantages of the proposal is that the magnetic silencing expertise is preserved and the capability to measure operating ships machinery and all scale-physical models is preserved.

Table 2-A(4): Disposition of Personnel - Detail Data

From Losing Base: NSWC-Annapolis[1]									
To Gaining Base: NSWC-Naval Research Laboratory, Chesapeake Beach Detachment									
UIC	Name	Type	1996	1997	1998	1999	2000	2001	Total
		Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	0	0	0	0	0	0	0
		Mil Stu	0	0	0	0	0	0	0
		Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	0	0	0	0	0	0	0
		Mil Stu	0	0	0	0	0	0	0

[1] See Attachment II, DJD 03, 09.

Table 2-B(4): Disposition of Personnel and Equipment - Summary

From Losing Base: NSWC-Annapolis[1]							
To Gaining Base: NSWC-Naval Research Laboratory, Chesapeake Beach Detachment							
	1996	1997	1998	1999	2000	2001	Total
Officer Billets	0	0	0	0	0	0	0
Enlisted Billets	0	0	0	0	0	0	0
Civilian Positions	0	0	0	0	0	0	0
Military Students	0	0	0	0	0	0	0
Tons of Mission Equipment	0	49	0	0	0	0	49
Tons of Support Equipment	0	0	0	0	0	0	0
Number of Light Vehicles	0	0	0	0	0	0	0
Number of Heavy Vehicles	0	0	0	0	0	0	0

Supporting Data for Table 2-B. Use the space below to list the types of Mission Equipment, Support Equipment, Light Vehicles and Heavy Vehicles identified as required to be relocated in Table 2-B and the rationale for relocating this equipment. Attach additional sheets as necessary.

Type of Equipment/Vehicles	Rationale for Relocating
Intermediate-scale Fire Testing (49 tons)	Provides for fire evaluation and assessment of scaleable structural and full size machinery components as to failure mode and property loss during fires. Loss of capability would result in conducting more expensive large-scale testing prior to final decision on structural concepts and ship systems.

[1]See Attachment II, DJD 03, 09.

Justification for Relocating the Intermediate-Scale Fire Testing Function[1] from the NSWC, Carderock Division. Annapolis Detachment. Special Area (NIKE Site) to NRL, Chesapeake Beach Detachment.

Intermediate-scale Fire Testing (ISFT) provides a cost-effective means of evaluating the fire response of all shipboard systems, items and equipment. This function provides the ability to evaluate in a scalable manner, the failure mode and properties loss of shipboard systems during a fire event and the development of fire risk scenarios. ISFT is used to conduct RDT&E which links the configuration of surface ship and submarine passive protection systems, and the survivability of HM&E equipment against weapon effects. Many tests and criteria pertain only to the Navy due to ship construction materials, high weapon and fuel components, compartment orientation, and weapon threats. ISFT provides a bridge between small and large scale testing and enhances the confidence that small scale results will indeed predict large scale behavior. In many cases ISFT provides verification of bench scale results indicating that large scale testing may not be required. ISFT is used to evaluate ship systems to include: submarine hull insulation, acoustic treatments, thermal insulation, shipboard electrical cables, coating systems, shipboard piping systems, and ducting. These items require realistic scale fire evaluation with simulation of shipboard fire conditions. ISFT evaluations requires burn chambers, water pumping capabilities, smoke precipitation, and test fixture/rig fabrication, which results in fire sizes, up to and including 200 kW. There are also numerous requirements for environmental hazard minimization, e.g., air and ground water contamination control, which require permits, licenses, etc. These requirements are easily met at NRL, Chesapeake Beach Detachment.machinery components as to failure mode and property loss during fires. Loss of capability would result in conducting more expensive large-scale testing prior to final decision on structural concepts and ship systems.

[1]See Attachment II, DJD 03, 09.

Table 2-A(5): Disposition of Personnel - Detail Data Table

From Losing Base: NSWC-Annapolis

To Gaining Base: Annapolis, MD-Leased Space (See Note Below)

UIC	Name	Type	1996	1997	1998	1999	2000	2001	Total
FFGSNO	Joint Spectrum Center (DoD)[1]	Officer	0	11	0	0	0	0	11
		Enlisted	0	8	0	0	0	0	8
		Civilian	0	115	0	0	0	0	115
		Mil Stu	0	0	0	0	0	0	0
		Officer	0	11	0	0	0	0	11
		Enlisted	0	8	0	0	0	0	8
		Civilian	0	115	0	0	0	0	115
		Mil Stu	0	0	0	0	0	0	0

NOTE: This accomodates the Joint Spectrum Center, presently a tenant at the NSWC Annapolis Site. It is a non-DoN fully owned and operated activity. These personnel reflect the "tenant" levels at this actvity for this function.

[1]See Attachment II, DJD 02, 04.

Table 2-B(5): Disposition of Personnel and Equipment - Summary

From Losing Base: NSWC-Annapolis[1]							
To Gaining Base: Annapolis, MD-Leased Space. See Note 1 Below							
	1996	1 See Attachment II, DJD #02, 04.997	1998	1999	2000	2001	Total
Officer Billets	0	11	0	0	0	0	11
Enlisted Billets	0	8	0	0	0	0	8
Civilian Positions	0	115	0	0	0	0	115
Military Students	0	0	0	0	0	0	0
Tons of Mission Equipment	0	See Note 2 Below	0	0	0	0	See Note 2 Below
Tons of Support Equipment	0	See Note 2 Below	0	0	0	0	See Note 2 Below
Number of Light Vehicles	0	0	0	0	0	0	0
Number of Heavy Vehicles	0	0	0	0	0	0	0

Note 1: This accomodates the Joint Spectrum Center, presently a tenant at the NSWC Annapolis Site. It is a non-DoN owned and operated activity. These personnel reflect the "tenant" levels at this activity for this function.

Note 2: Cost of moving the "mission" and "support" equipment was provided by the Joint Spectrum Center and is included in Table 2-F.c.8.

Supporting Data for Table 2-B. Use the space below to list the types of Mission Equipment, Support Equipment, Light Vehicles and Heavy Vehicles identified as required to be relocated in Table 2-B and the rationale for relocating this equipment. Attach additional sheets as necessary.

Type of Equipment/Vehicles | Rationale for Relocating

Please see Note 2 above

[1]See Attachment II, DJD 02, 04.

Table 2-C: Eliminated Billets/Positions

Using the Base Loading Data Attachment, identify, by UIC, for both the host and tenant activities, the number of military billets and/or civilian positions which will be eliminated as a result of the closure/realignment scenario. For each UIC on the Base Loading Data Attachment where military billets and/or civilian positions will be eliminated, make a separate entry on Table 2-C. Identify the number of Officer Billets, Enlisted Billets and/or Civilian Positions which will be eliminated in each Fiscal Year. Note that for a total closure scenario, the total number of billets/positions moved plus those eliminated must equal the entire workforce at the activity as of the end of FY 2001 as shown on Base Loading Data Attachment. Numbers entered here should reflect a thorough review of staffing requirements at both the losing and receiving sites, and include **all** potential job eliminations which would result from consolidation efficiencies, economies of scale, etc. Reductions should reflect both overhead/support eliminations and direct labor eliminations, as appropriate. Eliminations should be entered in the year(s) in which they are expected to occur, for example, if 80 civilian positions will be eliminated in FY 2000 and an additional 50 positions will be eliminated in FY 2001, then enter the data as follows: FY 1996 - 1999 = 0, FY 2000 = 80, FY 2001 = 50, Total = 130. **Do not identify any of the following as eliminated billets/positions in Table 2-C:**

- Planned Force Structure Reductions (FY 1996 through 2001).
- Military Students.
- Non-DON tenants.

Drilling reservists should also not be included in numbers of eliminated billets. Disposition of any tenant or reserve activities must be adequately coordinated.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

Table 2-C: Eliminated Billets/Positions

Losing Base Name: NSWC-Annapolis

UIC	Name	Type	1996	1997	1998	1999	2000	2001	Total
61533	NSWC-Annapolis Detachment	Officer	0	0	1	0	0	0	1
		Enlisted	0	0	0	0	0	0	0
		Civilian	6	98	34	0	0	0	138
FFGSN 0	Joint Spectrum Center [2]	Officer	0	0	0	0	0	0	0
		Enlisted	0	0	0	0	0	0	0
		Civilian	0	0	0	0	0	0	0
		Officer							0
		Enlisted							0
		Civilian							0
		Officer	0	0	1	0	0	0	1
		Enlisted	0	0	0	0	0	0	0
		Civilian	6	98	34	0	0	0	138

NOTE 1: This accomodates the Joint Spectrum Center, presently a tenant at the NSWC Annapolis Site. It is a non-DoN owned and operated activity. These personnel reflect the 'tenant' levels at this activity for this function.

Note 2: The UIC "FFGSN0" (i.e. Joint Spectrum Center) reflects a "zero" billet/position loss as they are not included in the NSWC Annapolis Site end strengths. There are no NSWC Annapolis employees working at this facility.

Make additional copies of this table, or add rows to it, as necessary, to include each host/tenant activity with eliminated positions/billets.

Table 2-D: Manpower Reconciliation Data. It is imperative that all manpower is accurately accounted for in the closure/realignment scenario. Using the data from the Base Loading Data Attachment and Tables 2-B and 2-C, complete the "reconciliation" table shown on the next page. Note that Line C of the table should include any changes in manpower resulting from the implementation of prior BRAC actions at the base. These changes should also be annotated on the Base Loading Data Attachment and reflected in Line D of the table. "End FY 2001."

(see next page)

Table 2-D: Manpower Reconciliation Data[1,2]

	Officers	Enlisted	Civilians	Mil Stu	Total
A. Begin FY 1996:	13	8	840	0	861
B. Force Structure Changes(+/-):	0	0	-13	0	-13
C. Prior BRAC Changes (+/-):	0	0	-294	0	-294
D. End FY 2001:	13	8	533	0	554
Moving to (List each Gaining Base):					
1. NSWC-Carderock	1	0	2	0	3
2. NSWC-Philadelphia	0	0	261	0	261
3. NSWC-White Oak	0	0	17	0	17
4. Joint Spectrum Center[1]	11	8	115	0	134
5.					
E. Total Billets/Positions Moving:	12	8	395	0	415
F. Eliminated Billets/Positions:	1	0	138	0	139
G. Remaining at Losing Base:	0	0	0	0	0
H. Sum of Lines E, F, and G:	13	8	533	0	554

Note 1: This accomodates the Joint Spectrum Center, presently a tenant at the NSWC Annapolis Site. It is a non-DoN owned and operated activity. These personnel reflect the "tenant" levels at this activity for this function.

Notes: Do not fill in shaded cells. Double check your work. Line H (which is the sum of number of billets/positions moving, eliminated and remaining at the Losing Base) must equal Line D (the number of billets/positions at the end of FY 2001).

[1]See Attachment II, DJD 02, Question 1.

[2]See Attachment II, DJD 012.

Table 2-E: Caretaker Requirements (Mothball Scenarios Only). Complete the table below to identify any permanent caretaker requirements associated with a "mothball" (deactivation) scenario. **Caretakers should only be identified if an activity will be mothballed as opposed to closed or realigned.** Scenario data call taskings will identify if this is a "mothball" scenario. This area should not be used to identify temporary caretaker requirements associated with closure of the facility. If some or all of the activity will be mothballed, as opposed to closed or realigned, then identify the number of military and/or civilian caretakers that will be required to remain permanently at the activity. Enter the number of caretakers which will be added to the activity in each year. For example, if 100 caretakers will be required in 1996, and then this number will be increased to 150 in 1997 and out, then enter 1996 = 100, 1997 = 50, leave 1998 through 2001 blank, and enter 150 as the total.

Table 2-E: Caretaker Requirements ("Mothball" Scenarios Only)

Losing Base Name: NSWC-Annapolis

	1996	1997	1998	1999	2000	2001	Total
Military Caretakers	0	0	0	0	0	0	0
Civilian Caretakers	0	0	0	0	0	0	0

* Support to be provided by Annapolis Naval Station (or Contractor) for the Deep Ocean Simulation Facility.

Table 2-F: Dynamic Base Information

Complete the following "Supporting Data" section. Then, summarize this data in the Summary Data Table (2-F) that immediately follows this "Supporting Data" section. Show all entries in ($000).

Table 2-F: Supporting Data:

a. **Other One-Time Unique Costs.** Identify any other one-time unique costs at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section). Examples include use of temporary office space, lease termination costs, etc. Only costs directly attributable to the closure/realignment action should be identified. This area should not be used to identify routine moving or personnel costs, which are calculated automatically by the COBRA algorithms, nor should it be used to identify one-time unique moving costs which will be addressed separately in item c. below. For each unique one-time cost, identify the amount, year in which the cost will be incurred and describe the nature of the cost. Do not double count any costs identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC-Annapolis

1.	$11,200K	1996	Contract termination costs;[1,2] BEST ESTIMATE due to varying contract types and termination dates. See explanation note below.
	$ 4,700K	1997	
	$ 1,000K	1998	
2.	$ 8,919K	1999	Depreciation of Capital Equipment; Assumed constant afterFY99
3.	$ 15K	1996	Close Library, pack & ship books and periodicals to NSWC. Philadelphia

Note: Termination costs are based upon total contracting load executed by the Supply Department (excludes NAVFAC based contracts) for Annapolis in FY94. Assumes termination of contracts for convenience of the government and a 5% escalation per year. Termination fees calculated per 100% for firm fixed price contracts; 5% for cost/time reimbursable and material services contracts; and 3% for value of indefinite delivery/quantity contracts. All costs reflect an estimated contracting load of Post BRAC 91 Annapolis functions and a phasing out over the period of the operational functions of the site. Please see Response #DJD 03 of 30 Nov 94 for a comparison between Scenario 35 and 35A.

[1]**See Attachment II, DJD 03, Question 1.**

[2]**See Attachment II, DJD 013, Questions 1, 2.**

b. **Other One-Time Unique Savings.** Identify any other one-time unique savings at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section). Examples include net proceeds to DoD resulting from an existing MOU with a state or local government, one-time environmental compliance cost avoidances, etc. This area should not be used to identify routine moving or personnel savings, which are calculated automatically by the COBRA algorithms. Do not include Construction Cost Avoidances (which were identified in a separate data call), or Procurement Cost Avoidances (which are covered under item i. below). For each savings, identify the amount, year in which it will occur and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. Do not double count any savings identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC-Annapolis

Cost	FY	Description
None		

c. **One-Time Unique Moving Costs.** The COBRA algorithms use standard packing and shipping rates to calculate the cost of transporting equipment and vehicles. Identify here only those unique moving costs associated with movements out of the losing base that would be incurred in addition to standard packing and shipping costs associated with tonnage and vehicles identified in Table 2-B. Examples of unique moving costs include packing, special handling or recalibration of specialized laboratory or industrial equipment: movement of special materials, etc. If unique costs identified here include packing and shipping costs, then ensure that tonnage for this "unique" equipment is not included under the Mission and Support equipment identified in Table 2-B. For each cost included in the table above, identify the amount, year in which the cost will be incurred, the name of the gaining base and a brief description of the cost.

Losing Base: NSWC-Annapolis

Cost[1] ($K)	FY	Gaining Base	Description
1. $5000K	97	NSWC-White Oak	Disassembly of Magnetic Fields Laboratory equipment and sensors and reassembly and calibration.
2. $10000K	96-98	NSWC-Philadelphia	Disassembly of the Advanced Propulsion Machinery Facility and reassemble and calibration.
3. $4900K	97	NSWC-Philadelphia	Disassembly of Machinery Acoustic Silencing Laboratory and reassembly and calibration.
4. $2200K	96-97	NSWC-Philadelphia	Disassembly of Advanced Shipboard Auxiliary Machinery Facilities and reassembly and calibration.
5. $2300K	97	NSWC-Philadelphia	Disassembly of the Advanced Electric Propulsion Development Facility and reassembly and calibration.
6. $3000K	97	NSWC-Philadelphia	Disassembly of the Electric Power Technology Facility and reassembly and calibration
7. $2000K	96	NSWC-Philadelphia	Disassembly of the Pulsed Power Facility and reassembly and calibration
8. $1100K	97	Annapolis, MD	Move all Joint Spectrum Center Property, including installation and certification of the main frame computer.
9. $ 25K	97	NSWC-Carderock	Move the Thermal Spray System Facility and recalibrate the system.
10. $ 25K	97	NSWC-Carderock	Move the Polyurethane Processor Facility and recalibrate the system.
11. $ 100K	97	NSWC-Carderock	Move the Reactive Metals Spray Forming Facilities and recalibrate the systems.

Note: Joint Spectrum, a non-DoN tenant activity, is being moved to leased space at Annapolis, MD.

[1]**See Attachment II, DJD 019, Question 1.**

d. and e. Changes in Mission Costs. Items d. and e. should be used to identify those changes in mission costs that result from the closure/realignment action. but are not counted elsewhere in this data call response or COBRA algorithms. For example. **do not include** changes in non-payroll Base Operating Support (BOS), Family Housing Operations. housing allowances. CHAMPUS costs/savings. or salary savings for eliminated positions/billets. all of which are calculated by other COBRA algorithms. Examples of items to include here are changes in operating costs due to the transfer of workload to gaining bases. economies of scale. changes in travel requirements. differences in wage grade labor rates or locality pay differentials. changes in the amount of mission work performed on contract. and changes in utility requirements or ADP/telecommunications costs not included in responses provided in the Base Operating Support tables of Data Call 66.

For purposes of calculating changes in costs associated with the transfer of mission workload from a losing to a gaining base. the following information is provided below. Calculations should take into consideration both economies of scale and differences in operating costs. Remember. any salary savings resulting from eliminated military billets and/or civilian positions must be identified as a number of billets/positions eliminated in Table 2-C. **Do not include** basic salary and fringe benefit savings associated with billets/positions identified as eliminated on Table 2-C. Also. **do not identify** changes in the non-payroll BOS Costs (including non-payroll G&A for DBOF activities) reported in Data Call 66.

First, identify economies of scale by examining the historic pattern of how labor, overhead and other costs vary with workload volume (adjust prior year costs for inflation to make them comparable; use statistical tests to determine the type of relationship that exists). The relationship between costs and workload can then be used to estimate changes in labor and overhead rates which result from the projected change in workload. Economies of scale benefits will generally accrue to gaining bases on an incremental basis, as the workload ramps up, and will remain in future years after all workload is transitioned.

Second, calculate resulting changes in operating costs. Changes in operating costs should be calculated by pricing out direct labor manhours of work, using the projected labor and productive overhead rates (which have been adjusted to take into consideration economies of scale resulting from the workload transfer) for both the losing and gaining base. The difference in total costs associated with the workload transition is then identified as the net change in mission costs. Relative differences in the numbers of hours required to complete a project at the losing base and gaining base(s) should be taken into consideration, if identifiable. Also, include contract costs in this analysis, but unless cost changes are identifiable, assume that contract price rates will remain constant.

If a net change in mission costs is included in the data call response, the response must also include supporting data to show calculations and methodology used to estimate this

start

change in costs. Furthermore, data used in these calculations must be consistent with previously submitted certified data.

d. **Net Mission Costs.** Complete the following worksheet to identify any net recurring increases in mission costs associated with the closure/realignment of the losing base and/or transfer of workload to gaining bases. For each net cost increase, identify the name of the gaining base where the workload will be transferred (if applicable), cost increases by year and describe the nature of the cost increase. If this worksheet is filled in, provide supporting data to show calculations and methodology used to estimate these cost increases.

Net Mission Costs (Cost Increases) Worksheet						
Losing Base: NSWC-Annapolis						
Gaining Base	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001 and Beyond
1. None	Significant					
Description: Non-CFC Air Conditioning; see below.						
2.						
Description:						

Add additional lines to worksheet as necessary.

MISSION COST IMPLICATIONS OF EARLY TERMINATION OF NON-CFC[1] AIR CONDITION R&D

The Air Conditioning and Refrigeraton CFC elimination R&D program is scheduled to complete R&D for CFC-12 AC plants in FY94, for CFC-12 refrigeration plants in FY95 and for CFC-114 plants in FY 2002. The program is using all means available to accommodate production bans beginning in FY95 including maximum stockpiling and a substantial R&D program. The quantities of CFC's in reserve are based on an aggressive conversion schedule which is in turn based on an aggressive R&D schedule. Terminating the R&D program in 1998 will compromise the CFC-114 conversion schedule, which delays fleet implementation, which depletes reserve stockpile, prior to the availability of replacement fluids, which means that ships will not have the required cooling power to operate combat systems and other critical cooling needs. In addition, the Navy's needs for CFC's are driven by leak rates which will result in fines of up to $25,000 per day. **The CFC-114 units affected by early termination are associated with SSN-688, SSN-726, SSN-21, DDG-51, CG-47, DD-963, DDG-993,**

[1]See Attachment II, DJD 08, 014, 016, 017, 021, 023, 024.

DDG-993, LHD-1, LHA-1, AOE-6, and AS-39/AD-41, and could produce fines on the order of tens of millions of dollars per day.

e. **Net Mission Savings.** Complete the following worksheet to identify any net recurring decreases in mission costs associated with the closure/realignment of the losing base and/or transfer of workload to gaining bases. For each net cost decreases, identify the name of the gaining base where the workload will be transferred (if applicable), cost decreases by year and describe the nature of the cost decrease. If this worksheet is filled in, provide supporting data to show calculations and methodology used to estimate these cost decreases.

Net Mission Savings (Cost Decreases) Worksheet						
Losing Base: NSWC-Annapolis						
Gaining Base	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001 and Beyond
1. None						
Description:						
2.						
Description:						

Add additional lines to worksheet as necessary.

f. **Miscellaneous Recurring Costs.** Identify any other recurring costs at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., new leases of facilities or equipment, etc. For each cost, identify the amount, year in which the cost will begin and describe the nature of the cost. Only costs directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances or CHAMPUS costs, all of which are calculated by other COBRA algorithms.) Do not double count changes in Mission costs shown above. Do not double count any costs identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC-Annapolis

	Annual Cost	FY	Description
1.	255 K	97	Mothball[1] cost for Deep ocean Pressure Facility (See Note 1)
2.	331 K	97	Additional travel costs[2]

Note 1: The recurring annual costs for the Deep Ocean Pressure Facility provides for basic services environmental controls). The environmental controls are required to maintain the future certifiability of this high pressure tank system. These environmental controls consist of maintaining facility temperature sufficiently above the freezing point of water in the Winter to preclude the possibility of damage due to the expansion of frozen water, purging of and placing a nitrogen blanket in the gaseous portions of the system to prevent possibility of corrosion within the pipes, and control of humidity throughout the facility to control the rate of corrosion on the exterior portions of the facility. The cost was obtained from a proportionate allocation of cost to retain in a "reserve" status from the Detailed Inventory of Naval Shore Facilities (NAVFAC P-164). The "reserve" category in NAVFAC P-164 Detailed Inventory of Naval Shore Facilities, is the same as "moth ball", i.e. it is the category between "standby" and "abandon".

Note 2: These recurring annual costs account for the additional direct travel to/from Carderock/Washington, DC area incurred by personnel relocated from Annapolis to Philadelphia. This relocation increases the average round trip from 80-100 miles to approximately 300 miles. Accounting for additional non-productive time would add a further annual cost of $398 K. For simplicity, it is assumed that these costs begin in FY 97 and remain stable thereafter.

g. **Miscellaneous Recurring Savings.** Identify any other recurring savings at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., elimination of leases of facilities or equipment, etc. For the savings, identify the amount, year in which each will begin and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances, CHAMPUS costs or salary savings for eliminated positions/billets, all of which are calculated by other COBRA algorithms.) Do not double count changes in Mission Costs shown above. Do not double count any savings identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC-Annapolis

Annual Savings	FY	Description
1. None		

---

[1]**See Attachment II, DJD 04, 015.**

[2]**See Attachment II, DJD 09, Question 3.**

h. **Land Sales.** Identify any proceeds, if identifiable and realistically expected to be received, which would be realized through the sale of excessed property at the losing base(s). In most cases, proceeds will not be realized from the sale of land at closed activities. However, if unusual circumstances warrant, identify estimated amount of proceeds, number of acres to be sold and rationale for assuming that proceeds will be obtained.

Losing Base: NSWC-Annapolis

Revenues	No. of Acres	Rationale
1. None		

i. **Procurement Cost Avoidances.** Identify any procurement cost avoidances which would be realized as a result of the closure/realignment scenario. Items identified here must not include any funds, regardless of appropriation, identified as BOS costs in Data Call 66. An example of a cost to include here would be a planned "Other Procurement account" purchase of a computer system, which will no longer be required as a result of the closure/realignment action. For each cost avoidance, identify the amount, year in which the cost would have been incurred, whether the cost avoidance is one-time or recurring in nature, and the nature of the cost avoidance.

Losing Base: NSWC-Annapolis

Cost	FY	One-Time/Recurring	Explanation
1. None			

j. **Facility Shutdown.** If an activity is being realigned but not completely closed, then identify the number of square feet of Class 2 real property (buildings), excluding family housing, MWR and utilities facilities, which will be shut down at the losing base as a result of this action. If an activity is being completely closed, then just enter "All". The Base Loading Data Attachment includes an identification of total square feet for the activity and should be referred to in answering this question. Note that this entry should be shown in "thousands of square feet" (KSF).

Losing Base: NSWC-Annapolis

Facility KSF Shutdown: 598 KSF[1]

[1] **See Attachment II, DJD 09, Question 1.**

Note1: Attachment 1: Base Loading Data for Scenario 3-20-0198-035 shows a value of zero (0) for Total Facility Square Footage. The correct figure is 629 KSQFT.

Note 2: Nike Site accounts for 10 KSF of lost facilities

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

Summarize data shown in response to supporting data questions a. through j. above in the following table. Note that all entries must be shown in ($000).

Table 2-F(1)Dynamic Base Information Summary

Losing Base: NSWC-Annapolis								
		1996	1997	1998	1999	2000	2001	Total
a.	One-Time Unique Costs	11,215[1]	4,700	1,000	8,919	0	0	25,834
b.	One-Time Unique Svgs	0	0	0	0	0	0	0
c.	One-Time Move Costs	6,000	19,650	5,000	0	0	0	30,650
d.	Net Mission Costs	0	0	0	0	0	0	0
e.	Net Mission Savings	0	0	0	0	0	0	0
f.	Misc Recur Costs Note 2	0	586 Note 1,3	0	0	0	0	586
g.	Misc Recur Savings	0	0	0	0	0	0	0
h.	Land Sales	0	0	0	0	0	0	0
i.	Procurement Cost Avoid	0	0	0	0	0	0	0

j. Fac. Shutdown (KSF)	598[2]

break down on 1-7R

Note 1: "Miscellaneous Recurring Costs" provide for the Deep Ocean Facility moth ball costs.
Note 2: Miscellaneous recurring costs are entered for the first year of occurence per COBRA instructions.
Note 3: Miscellaneous additional costs for recurring travel from Philadelphia to Washington.

[1]See Attachment II, DJD 020.

[2]See Attachment II, DJD 09.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
NSWC PHILADELPHIA SUBMISSION (3-20-0198-035A)
ENCLOSURE (3) - GAINING BASE QUESTIONS

Complete a separate Enclosure (3) - **Gaining Base Questions, as appropriate, for each "gaining" base involved in the closure/realignment scenario. Make additional copies of this enclosure as necessary.** Tables included in this enclosure are 3-A and 3-B. Enter the name of the Gaining Base in the block below.

Gaining Base:	NSWC-PHILADELPHIA

Table 3-A - Dynamic Base Information. Complete the following "Supporting Data" section. Then, summarize this data in the Summary Data Table (3-A) that immediately follows this "Supporting Data" section. Show all entries in ($000).

Table 3-A: Supporting Data

a. **Other One-Time Unique Costs.** This item has been divided into two sections. First, separately identify any Community Infrastructure Impact costs. Second, separately identify any other One-Time Unique costs. **Finally, when transferring these figures to the Summary Data Table (3-A), combine both sets of numbers into one "Other One-Time Unique Costs" answer (by year).**

a. (1) **Community Infrastructure Impacts.** Identify any cost impacts on community infrastructure at gaining bases which would result from the transfer of functions/personnel, e.g., requirement to build new sewage treatment facility, etc. For each cost, identify the amount, year in which it would be incurred, location (city, etc.), and a brief description of the requirement. Answers must be consistent with certified data contained in the gaining base's Data Call 65, "Economic and Community Infrastructure Data", response. Ensure that adequate coordination takes place, especially in those cases where the gaining and losing base are in different claimancies. **Remember to aggregate this answer with 2.a.(2) costs on the next page, if any, when transferring data to Summary Table.**

Gaining Base: **NSWC-PHILADELPHIA**

Cost	FY	Location	Description
1. NONE			

NOTE: There will be no community infrastructure impact. The City of Philadelphia and the surrounding major metropolitan area can absorb the increase in personnel from losing base (NSWC Annapolis) without impact.

a. (2) **Other Unique One-Time Costs.** Identify any other one-time unique costs at the gaining base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section). Examples include use of temporary office space. etc. Only costs directly attributable to the closure/realignment action should be identified. This area should not be used to identify routine moving or personnel costs. which are calculated automatically by the COBRA algorithms. nor should it be used to identify one-time unique moving costs which will be addressed in the Losing Base tables (enclosure (2)). For each unique one-time cost, identify the amount, year in which the cost will be incurred and describe the nature of the cost. Do not double count any costs identified on Losing Base tables (Enclosure (2)). Remember to aggregate with 2.a.(1) costs on the previous page, if any, when transferring data to Summary Table.

Gaining Base: NSWC-PHILADELPHIA

	Cost	FY	Description
1.	**$21.4K**	**96**	**107 people @$200/person**
	$28.0K	**97**	**140 people @$200/person**
	$ 2.8K	**98**	**14 people @$200/person**
	$52.2K		**261**

Personnel from losing base can be accommodated by NSWC-PHILADELPHIA.

Note: NSWC-Philadelphia is consolidating personnel into larger and fewer buildings as a result of past BRAC actions. The largest building, being vacated by PNSY as a BRAC'91 action. will house personnel from excessed portions of the Naval Station and allows closure and disposal of several NSWC-Philadelphia buildings. Costs for these actions are covered by previous BRAC decisions. As a result of these consolidations, NSWC-Philadelphia will have 350 excess office working spaces that were intended to be laid up. Costs to continue using these spaces consists of phone and computer hookup, furniture relocation and space cleanup.

Note: $200/person up to 350 people (phone, computer hookup/space cleanup/systems furniture relocation).

	Cost[1]	FY	Description
2.	25K	96	Advanced Propulsion Machinery Facility
	100K	97	Machinery Acoustics Silencing Laboratory
	50K	96	Advanced Shipboard Auxiliary Machinery Facilities
	40K	97	Advanced Electric Propulsion Development Facility
	50K	97	Electric Power Technology Facility
	50K	96	Pulsed Power Facility
	5K	97	Sea Survival (NIKE)
	320K	96-97	Total

Notes: NSWC-Philadelphia's existing plant infrastructure is designed for low cost and rapid change out of test facilities. Utilities such as electrical power, cooling water, air and fuel are available throughout the test buildings. Foundations are specially reinforced with unique "T-block" design to accommodate different footprints of equipment. Space is available to accommodate the facilities in question. Input to this scenario were coordinated between the losing and gaining activities. The losing activity estimates include movement and reconstruction of the test facilities at the gaining activity including: lay-up, removal, packing, shipping, unpacking, installation, alignment and preparation testing of the facility. Special requirements (such as acoustic foundations) are included with losing site estimates. Gaining sites estimates include clean out of the site, removal of existing equipment and tie in of utilities to the site. One site, the Machinery Acoustic Silencing Laboratory, will require retention of a building being closed by BRAC'91. Costs for maintenance and repair, fire protection, security utilities, trash removal and other miscellaneous costs are included in paragraph (d).

b. Other One-Time Unique Savings. Identify any other one-time unique savings at the gaining base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section). <u>This area should not be used to identify routine moving or personnel savings, which are calculated automatically by the COBRA algorithms. Do not include MILCON Cost Avoidances (which were identified in a separate data call), or Procurement Cost Avoidances (which are covered in the losing base enclosure).</u> For each savings, identify the amount, year in which it will occur and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. Do not double count any savings identified on Losing Base tables (Enclosure (2)).

[1] See Attachment II, DJD 019, Question 1.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
NSWC PHILADELPHIA SUBMISSION (3-20-0198-035A)
ENCLOSURE (3) - GAINING BASE QUESTIONS

Gaining Base: **NSWC-PHILADELPHIA**

	Cost	FY	Description
1.	NONE		

c. **Environmental Mitigation.** Environmental cleanup costs at closing bases are not considered in COBRA, since these costs will be incurred regardless of whether the activity is closed or remains opened. If, however, additional environmental costs are incurred at gaining bases as the result of a transfer of functions or personnel, these costs should be identified, e.g., wetland mitigation, environmental impact statements at gaining bases, new permits, etc. Identify below any non-Military Construction environmental mitigation costs which will be incurred as a result of this closure/realignment action. (Note: Military Construction Costs for environmental mitigation are identified in Table 3-B). For each cost, identify the amount, year in which the cost will be incurred and a brief description of the cost.

Gaining Base: **NSWC-PHILADELPHIA**

	Cost	FY	Description
1.	**NONE**		

d. Miscellaneous Recurring Costs. Identify any other recurring costs associated with the closure/realignment action at the gaining base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., new leases of facilities or equipment, etc. For each cost, identify the year in which the cost will begin and describe the nature of the cost. Only costs directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances or CHAMPUS costs, all of which are calculated by other COBRA algorithms.). Do not double count any costs identified on Losing Base tables (Enclosure (2)).

Gaining Base: **NSWC-PHILADELPHIA**

	Annual Cost	FY	Description
1.	**$380K**[1]	**97**	**Maintenance and repair, fire protection, utility and other miscellaneous costs of a building previously closed by BRAC'91.**

[1]**See Attachment II, DJD 019, Questions 2a, 2b.**

e. Miscellaneous Recurring Savings. Identify any other recurring savings associated with the closure/realignment action which will not be calculated automatically by the model, e.g., elimination of leases of facilities or equipment, etc. For the savings, identify the year in which each will begin and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances, CHAMPUS costs or salary savings for eliminated positions/billets, all of which are calculated by other COBRA algorithms.). Do not double count any savings identified on Losing Base tables (Enclosure (2)).

Gaining Base: **NSWC-PHILADELPHIA**

	Annual Savings	FY	Description
1.	**NONE**		

f. Land Purchases. Identify any land purchases required at gaining bases to accommodate relocating activities/functions. Identify the cost, number of acres, year in which purchase will occur and a brief description identifying why the land needs to be purchased.

Gaining Base: **NSWC-PHILADELPHIA**

	Cost	No. of Acres	FY	Description
1.	**NONE**			

Summarize data shown in response to supporting data questions a. through f. above in the following table:

Table 3-A: Dynamic Base Information

Gaining Base Name: NSWC-PHILADELPHIA								
		1996	1997	1998	1999	2000	2001	Total
a	One-Time Unique Costs *	146.4[1]	223[1]	2.8[1]	0	0	0	372.2
b	One-Time Unique Savings	0	0	0	0	0	0	0
c	Environ. Mitigation	0	0	0	0	0	0	0
d	Misc. Recurring Costs[2]	0	380	0	0	0	0	380
e	Misc. Recurring Savings	0	0	0	0	0	0	0
f	Land Purchases	0	0	0	0	0	0	0

* Includes both Community Infrastructure Impact and Other One-Time Unique Costs, as applicable.

Note 1: **In addition to the costs on page 3-3, there is a one-time moving cost of: $200/person up to 350 people (phone, computer hookup/space cleanup/systems furniture relocation),**

Note 2: Miscellaneous recurring costs are listed only for the first year of occurance, per COBRA instructions.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
NSWC PHILADELPHIA SUBMISSION (3-20-0198-035A)
ENCLOSURE (3) - GAINING BASE QUESTIONS

Table 3-B - Military Construction Requirements. Identify the amount of new construction or rehabilitation (using the designated unit of measure) which will be required at the receiving site. Include a brief description of the requirement in the Comment column.

- Do not include Family Housing construction requirements on this table, they will be identified on a separate data call format.
- The COBRA MILCON algorithm will estimate the cost of MILCON requirements for the standard categories of construction listed on the next page. However, if an engineered estimate(s) is already available, then a dollar value for the requirement(s) should be identified in the "Comment" column of the table.
- Any identified Environmental Mitigation MILCON projects must include a total cost and brief description of the requirement in the "Comment" column of the table.
- The "Other" row is provided to identify MILCON requirements which do not fit the standard construction categories, e.g., dry docks, SCIF conversions, aircraft wash racks, etc. Enter a total cost and brief description for each identified requirement. For these "unique" categories of construction, a square footage estimate should also be indicated, if possible.

For Rehabilitation Requirements: if entered as a "unit of measure" (e.g., SF, etc.), then corresponding costs will be calculated at 75% of the cost of new construction (worst-case cost estimate for rehabilitation costs). If the rehabilitation will involve renovation at an anticipated rate of less than 75%, then in addition to identifying the requirement (SF, etc.), enter in the Comment block either a rehabilitation cost or an appropriate percentage which should be used in lieu of the 75% rate. Show any cost entries in ($000).

Description of "Units of Measure" used in Table 3-B:

SY - Square Yards
FB - Feet of Berthing
SF - Square Feet
BL - Barrels

Description of standard "Categories of Construction" used in Table 3-B (including examples of types of construction included in these categories):

Horizontal - Aprons/Paving (Aircraft Parking Aprons, Combat Aircraft Ordnance Loading Areas, etc.), shown in square yards.

Berthing - General Purpose Berthing Piers, shown in feet of berthing.

ENCLOSURE (3) - GAINING BASE QUESTIONS

Air Maintenance - Maintenance Hangers (General Purpose, High Bay, etc.), shown in square feet.

Other Operations - General Purpose Operations Facilities (Aircraft, Ordnance, Amphibious, Headquarters, etc.), shown in square feet.

Administrative - Administrative space (General Purpose and ADP), shown in square feet.

Training - Training Facilities (Academic, Reserve, Applied Instruction, Recruit Processing, Operational Trainers, etc.), shown in square feet.

Maintenance - Non-Weapons facilities (Vehicles, Electronics, Public Works, etc.), shown in square feet.

Bachelor Quarters - Barracks, Dormitories or Unmarked Officer Quarters, shown in square feet.

Supply/Storage - Operational Storage, Cold Storage, General Warehouse, etc., shown in square feet.

Dining Facilities - Enlisted Mess Hall, shown in square feet.

Personnel Support - Fire, Police, Family Service Centers, MWR, Child Care, etc., shown in square feet.

Communications - Other Communications Facilities, (Communications Centers, Telephone Exchanges, Terminal Equipment, Radar Air Traffic Control Center, etc.), shown in square feet.

Ship Maintenance - Shore Intermediate Maintenance, Waterfront Services, Amphibian Vehicle Maintenance, etc., shown in square feet.

RDT&E - Other Research, Development, Test and Evaluation (RDT&E) facilities (Aircraft, Ship, Underwater, Electronics, etc.) (does not include Ammo/Propulsion Labs), shown in square feet.

POL Storage - Jet Engine Fuel Storage, shown in barrels.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
NSWC PHILADELPHIA SUBMISSION (3-20-0198-035A)
ENCLOSURE (3) - GAINING BASE QUESTIONS

Ammo Storage - General Purpose. High Explosive. Small Arms and Missile Magazines. shown in square feet.

Medical Facilities - Hospitals. Medical/Dental Clinics. etc.. shown in square feet.

Table 3-B: MILCON Requirements

Gaining Base Name: **NSWC-PHILADELPHIA**

Category (Unit)	New Construction Requirement	Rehabilitation Requirement	Comment
Horizontal (SY)	0	0	NONE
Berthing (FB)	0	0	NONE
Air Maintenance (SF)	0	0	NONE
Other Operations (SF)	0	0	NONE
Administrative (SF)	0	0	NONE
Training (SF)	0	0	NONE
Maintenance (SF)	0	0	NONE
Bachelor Quarters (SF)	0	0	NONE
Supply/Storage (SF)	0	0	NONE
Dining Facilities (SF)	0	0	NONE
Personnel Support (SF)	0	0	NONE
Communications (SF)	0	0	NONE
Ship Maintenance (SF)	0	0	NONE
RDT&E (SF)	0	0	NONE
POL Storage (BL)	0	0	NONE
Ammo Storage (SF)	0	0	NONE
Medical Facilities (SF)	0	0	NONE
Environmental	$ 0	$ 0	NONE
Other: - - -	0 $ $ $	0 $ $ $	NONE

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

CAPT HARRY J. RUCKER, USN
NAME (Please type or print)

H J Rucker
Signature

COMMANDING OFFICER
Title

27 January 1995
Date

NSWC PHILADELPHIA
Activity

This certification covers NSWC Philadelphia Enclosure (3) to the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

Gaining Base:	NSWC CARDEROCK

Table 3-A (2): Supporting Data

a. Other One-Time Unique Costs.

a. (1) Community Infrastructure Impacts.

	Cost	FY	Location	Description
1.	None			

a. (2) Other Unique One-Time Costs.

	Cost	FY	Description
1.	None		

b. Other One-Time Unique Savings.

	Cost	FY	Description
1.	None		

c. Environmental Mitigation.

	Cost	FY	Description
1.	$125K	96	Environmental Impact Assessment

d. Miscellaneous Recurring Costs.

	Annual Cost	FY	Description
1.	None		

e. Miscellaneous Recurring Savings.

	Annual Savings	FY	Description
1.	None		

f. Land Purchases.

	Cost	No. of Acres	FY	Description
1.	None			

Table 3-A (2): Dynamic Base Information

Gaining Base Name: NSWC CARDEROCK

		1996	1997	1998	1999	2000	2001	Total
a	One-Time Unique Costs	0	0	0	0	0	0	0
b	One-Time Unique Savings	0	0	0	0	0	0	0
c	Environ. Mitigation	125	0	0	0	0	0	125
d	Misc. Recurring Costs	0	0	0	0	0	0	0
e	Misc. Recurring Savings	0	0	0	0	0	0	0
f	Land Purchases	0	0	0	0	0	0	0

Table 3-B (2): MILCON Requirements

Gaining Base Name: NSWC CARDEROCK

Category (Unit)	New Construction Requirement	Rehabilitation Requirement	Comment
Horizontal (SY)	0	0	NONE
Berthing (FB)	0	0	NONE
Air Maintenance (SF)	0	0	NONE
Other Operations (SF)	0	0	NONE
Administrative (SF)	0	0	NONE
Training (SF)	0	0	NONE
Maintenance (SF)	0	0	NONE
Bachelor Quarters (SF)	0	0	NONE
Supply/Storage (SF)	0	0	NONE
Dining Facilities (SF)	0	0	NONE
Personnel Support (SF)	0	0	NONE
Communications (SF)	0	0	NONE
Ship Maintenance (SF)	0	0	NONE
RDT&E (SF)	10,000	0	See Note 1
POL Storage (BL)	0	0	NONE
Ammo Storage (SF)	0	0	NONE
Medical Facilities (SF)	0	0	NONE
Environmental	$ 0	$ 0	NONE
Other: MILCON	$1,000	$ 0	See Note 2

Note 1: The BRAC-91 process created the Naval Surface Warfare Center and realigned the David Taylor Research Center into the Carderock Division. Functional responsibility for the NIKE Site migrates to the Carderock Site with the relocation of the Survivability, Structures, and Materials Directorate (formerly the Ship Materials Engineering Department) and its related facilities.

Note 2: Thermal Spray Process ($350K); Reactive Metal Spray Forming Building ($400K); Polyurethane Processing Building ($250K)

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

James E. Baskerville; Captain USN	______________________
NAME (Please type or print)	Signature
Commander	27 January 1995
Title	Date
Carderock Division; NSWC	
Activity	

This certification covers NSWC Carderock Site Enclosure (3) to the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

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

James E. Baskerville; Captain USN
NAME (Please type or print)

Signature

Commander
Title

27 January 1995
Date

Carderock Division; NSWC
Activity

This certification covers NSWC Carderock Site Enclosure (3) to the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

Gaining Base:	NSWC WHITE OAK

Table 3-A (3): **Supporting Data**

a. Other One-Time Unique Costs.

a. (1) Community Infrastructure Impacts.

	Cost	FY	Location	Description
1.	None			

a. (2) Other Unique One-Time Costs.

	Cost	FY	Description
1.	None: Installation and minor alterations included in losing site cost estimate.		

b. Other One-Time Unique Savings.

	Cost	FY	Description
1.	None		

c. Environmental Mitigation.

	Cost	FY	Description
1.	None		

d. Miscellaneous Recurring Costs.

	Annual Cost	FY	Description
1.	None		

e. Miscellaneous Recurring Savings.

	Annual Savings	FY	Description
1.	None		

f. Land Purchases.

	Cost	No. of Acres	FY	Description
1.	None			

Table 3-A (3): Dynamic Base Information

Gaining Base Name: NSWC WHITE OAK								
		1996	1997	1998	1999	2000	2001	Total
a	One-Time Unique Costs	0	0	0	0	0	0	0
b	One-Time Unique Savings	0	0	0	0	0	0	0
c	Environ. Mitigation	0	0	0	0	0	0	0
d	Misc. Recurring Costs	0	0	0	0	0	0	0
e	Misc. Recurring Savings	0	0	0	0	0	0	0
f	Land Purchases	0	0	0	0	0	0	0

Table 3-B (3): MILCON Requirements

Gaining Base Name: NSWC WHITE OAK			
Category (Unit)	New Construction Requirement	Rehabilitation Requirement	Comment
Horizontal (SY)	0	0	NONE
Berthing (FB)	0	0	NONE
Air Maintenance (SF)	0	0	NONE
Other Operations (SF)	0	0	NONE
Administrative (SF)	0	0	NONE
Training (SF)	0	0	NONE
Maintenance (SF)	0	0	NONE
Bachelor Quarters (SF)	0	0	NONE
Supply/Storage (SF)	0	0	NONE
Dining Facilities (SF)	0	0	NONE
Personnel Support (SF)	0	0	NONE
Communications (SF)	0	0	NONE
Ship Maintenance (SF)	0	0	NONE
RDT&E (SF)	0	0	NONE
POL Storage (BL)	0	0	NONE
Ammo Storage (SF)	0	0	NONE
Medical Facilities (SF)	0	0	NONE
Environmental	$ 0	$ 0	NONE
Other: - - -	0 $ $ $	0 $ $ $	NONE

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

Each individual in 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 the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

JAMES S. PERRY, CAPT, USN
NAME (Please type of print)

James S. Perry
Signature

OFFICER IN CHARGE
Title

1/27/95
Date

WHITE OAK DETACHMENT
DAHLGREN DIVISION
Activity NAVAL SURFACE WARFARE CENTER

Gaining Base:	NAVAL RESEARCH LABORATORY CHESAPEAKE BEACH DETACHMENT

Table 3-A (4): Supporting Data

a. Other One-Time Unique Costs.

a. (1) Community Infrastructure Impacts.

	Cost	FY	Location	Description
1.	None			

a. (2) Other Unique One-Time Costs.

	Cost	FY	Description
1.	$100K	97	Miscellaneous permits, environmental control and installation costs

b. Other One-Time Unique Savings.

	Cost	FY	Description
1.	None		

c. Environmental Mitigation.

	Cost	FY	Description
1.	None		

d. Miscellaneous Recurring Costs.

	Annual Cost	FY	Description
1.	None		

e. Miscellaneous Recurring Savings.

	Annual Savings	FY	Description
1.	None		

f. Land Purchases.

	Cost	No. of Acres	FY	Description
1.	None			

Table 3-A (4): Dynamic Base Information

Gaining Base Name: NAVAL RESEARCH LABORATORY CHESAPEAKE BEACH DETACHMENT

		1996	1997	1998	1999	2000	2001	Total
a	One-Time Unique Costs	0	100	0	0	0	0	100
b	One-Time Unique Savings	0	0	0	0	0	0	0
c	Environ. Mitigation	0	0	0	0	0	0	0
d	Misc. Recurring Costs	0	0	0	0	0	0	0
e	Misc. Recurring Savings	0	0	0	0	0	0	0
f	Land Purchases	0	0	0	0	0	0	0

Table 3-B (4): MILCON Requirements

Gaining Base Name: NAVAL RESEARCH LABORATORY
CHESAPEAKE BEACH DETACHMENT

Category (Unit)	New Construction Requirement	Rehabilitation Requirement	Comment
Horizontal (SY)	0	0	NONE
Berthing (FB)	0	0	NONE
Air Maintenance (SF)	0	0	NONE
Other Operations (SF)	0	0	NONE
Administrative (SF)	0	0	NONE
Training (SF)	0	0	NONE
Maintenance (SF)	0	0	NONE
Bachelor Quarters (SF)	0	0	NONE
Supply/Storage (SF)	0	0	NONE
Dining Facilities (SF)	0	0	NONE
Personnel Support (SF)	0	0	NONE
Communications (SF)	0	0	NONE
Ship Maintenance (SF)	0	0	NONE
RDT&E (SF)	0	0	NONE
POL Storage (BL)	0	0	NONE
Ammo Storage (SF)	0	0	NONE
Medical Facilities (SF)	0	0	NONE
Environmental	$ 0	$ 0	NONE
Other: - - -	0 $ $ $	0 $ $ $	NONE

BRAC-95 CERTIFICATION

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

Dr JAMES S MURDAY
NAME (Please type or print)

Signature

SUPERINTENDENT
Title

19 Nov 1994
Date

CHEMISTRY SCIENCE - COMPONENT TECHNOLOGY
Division

MATERIALS
Department

NAVAL RESEARCH LAB
Activity

Gaining Base:	ANNAPOLIS, MD - LEASED SPACE

Table 3-A (5): **Supporting Data**

a. Other One-Time Unique Costs.

a. (1) Community Infrastructure Impacts.

	Cost	FY	Location	Description
1.	None			

a. (2) Other Unique One-Time Costs.

	Cost	FY	Description
1.	None		

b. Other One-Time Unique Savings.

	Cost	FY	Description
1.	None		

c. Environmental Mitigation.

	Cost	FY	Description
1.	None		

d. Miscellaneous Recurring Costs.

	Annual Savings	FY	Description
1.	$1,000K	97	These costs accomodates the Joint Spectrum Center (a non-DoN Command). The $1M recurring cost is for the 134 Joint Spectrum Center employees to be housed in a co-located site with the approximately 700 contractor personnel already at the ADM Cochran Blve site in Annapolis. The recurring $1M does not include any costs for the 700 personnel already located off the NSWC-Annapolis site.

e. Miscellaneous Recurring Savings.

	Annual Savings	FY	Description
1.	None		

f. Land Purchases.

	Cost	No. of Acres	FY	Description
1.	None			

Table 3-A (5): Dynamic Base Information

Gaining Base Name: ANNAPOLIS, MD - LEASED SPACE								
		1996	1997	1998	1999	2000	2001	Total
a	One-Time Unique Costs	0	0	0	0	0	0	0
b	One-Time Unique Savings	0	0	0	0	0	0	0
c	Environ. Mitigation	0	0	0	0	0	0	0
d	Misc. Recurring Costs	0	1,000	0	0	0	0	1,000
e	Misc. Recurring Savings	0	0	0	0	0	0	0
f	Land Purchases	0	0	0	0	0	0	0

Note: The "Annapolis, MD-Leased Space" recurring costs are discussed in Paragraph 2.F on page 2-39

Table 3-B (5): MILCON Requirements

Gaining Base Name: ANNAPOLIS, MD - LEASED SPACE

Category (Unit)	New Construction Requirement	Rehabilitation Requirement	Comment
Horizontal (SY)	0	0	NONE
Berthing (FB)	0	0	NONE
Air Maintenance (SF)	0	0	NONE
Other Operations (SF)	0	0	NONE
Administrative (SF)	0	0	NONE
Training (SF)	0	0	NONE
Maintenance (SF)	0	0	NONE
Bachelor Quarters (SF)	0	0	NONE
Supply/Storage (SF)	0	0	NONE
Dining Facilities (SF)	0	0	NONE
Personnel Support (SF)	0	0	NONE
Communications (SF)	0	0	NONE
Ship Maintenance (SF)	0	0	NONE
RDT&E (SF)	0	0	NONE
POL Storage (BL)	0	0	NONE
Ammo Storage (SF)	0	0	NONE
Medical Facilities (SF)	0	0	NONE
Environmental	$ 0	$ 0	NONE
Other: - - -	0 $ $ $	0 $ $ $	NONE

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

GEORGE FLOCK	George Flock
NAME (Please type or print)	Signature
Colonel, U.S. Air Force, Commander	25 JAN 1995
Title	Date
Joint Spectrum Center	
Activity	

BSAT Scenario 3-20-0198-035A

BRAC-95 SCENARIO DEV OPMENT DATA CALL
ATTACHMENT 1: BASE LOADING DATA

Activity: 61533 NSWC CARDEROCK DIV DET ANNAPOLIS

PART I: MANPOWER DATA - HOST AND TENANTS. This data is provided to assist you in identifying military billets and civilian positions which will either be relocated or eliminated as a result of closure or realignment. Officer (OFF), Enlisted (ENL) and Civilian (CIV) numbers reflect end strength, not on-board counts. The "Planned Force Structure Reduction" column represents the difference between projected "Beginning of FY 1996" and projected "End of FY 2001" end strength. The source of this data is the BUPERS/NAVCOMPT/CMC data bases in support of the FY 1996/1997 OSD Submit. Review this list and make any necessary annotations, including the addition or deletion of lines of data to accurately reflect the host and tenant population. Note that Military Students (STU) must be shown as an Average On Board (AOB) count. If a significant student population is located at the activity, then all students need to be identified in this table. Student data need only be provided for the "End of FY 2001" column of the table. If any numbers are changed, please provide a revised set of totals at the end of the listing.

UIC	NAME	MAJOR CLAIMANT	BEGIN FY 1995 OFF	BEGIN FY 1995 ENL	BEGIN FY 1995 CIV	BEGIN FY 1995 STU	PLANNED FORCE STRUCTURE CHANGES OFF	PLANNED FORCE STRUCTURE CHANGES ENL	PLANNED FORCE STRUCTURE CHANGES CIV	PLANNED FORCE STRUCTURE CHANGES STU	END FY 2001 OFF	END FY 2001 ENL	END FY 2001 CIV	END FY 2001 STU
N61533	NSWC CARDEROCK DIV DET	COMNAVSEASYS	2	0	0	0	0 2A	0	0	0	2 2A	0	0	0
61533	NSWC CARDEROCK	COMNAVSEASYS	0	0	725	0	0	0	-307	0	0	0	410	0
		TOTAL:	2	0	725	0	-1	0	-307 NOTE 2	0	1	0	410	0

ADD

Note 1. *The base loading data shown above does not include the Joint Spectrum Center (formerly the Electromagnetic Compatibility Center) a DoD tenant activity at the Annapolis Site. (See Annapolis Data Call #1.)*

UIC	NAME	Major Claimant	Begin FY96 Off	Enl	Civ	Stu	Planned Force Structure Change Off	Enl	Civ	Stu	End FY2001 Off	Enl	Civ	Stu
FFGSN0	Joint Spectrum Center	DoD	11	8	115	0	0	0	0	0	11	8	115	0

Note 2. *Force Structure change of 307 personnel shown for the Annapolis Detachment consists of a transfer of 294 personnel and related facilities to the NSWC/Carderock Site in FY96 under BRAC 91, and a workload draw-down of 13 personnel at the Annapolis Site between FY 97 and FY 2001.*

Note 2A: ***See Attachment II, DJD 018***

BRAC-95 SCENARIO DEV   OPMENT DATA CALL
ATTACHMENT 1: BASE LOADING DATA

PART 5: **TOTAL FACILITY SQUARE FEET.** This is the total Class 2 facility square feet, excluding family housing, MWR and utilities, as reported in the Naval Facilities Assets Data Base (NFADB). This figure is used in determining the number of square feet which will be "shut down" as a result of the closure action.

Total Facility Square Feet (in thousands): *629*[3]

PART 6: **BASE OPERATING SUPPORT (BOS) COST DATA.** This is the total BOS costs reported for the host and tenant activities in Data Call 66. Please review this data and ensure that it is consistent with FY 1996 OSD Submit budget data. If BOS cost data needs to be revised, specific revisions should be noted on a revised copy of the appropriate Data Call 66 table(s), which should then be returned with this data call response.

			***** O&M, etc. *****				***** DBOF *****				***** TOTAL *****			
UIC	NAME	MAJOR CLAIMANT	RPMA NONPAY	RPMA PAY	OBOS NONPAY	OBOS PAY	RPMA NONPAY	RPMA PAY	OBOS NONPAY	OBOS PAY	RPMA NONPAY	RPMA PAY	OBOS NONPAY	OBOS PAY
61533	NSWC CARDEROCK DIV DET	COMNAVSEASYSCO	3	3	0	0	3761	960	6086	6799	3764	963	6086	6791
		TOTALS:	3	3	0	0	3761	960	6086	6799	3764	963	6086	6791

Note 3. *See Attachment II, DJD 01, Question 3.*

12 Dec 1994

BRAC-95 SCENARIO DEVE[...]ENT DATA CALL
ATTACHMENT 1: BA[...]ADING DATA

PART 7: CONTRACT WORKYEAR DATA. This is the total contract workyear data reported by the host and tenant activities in Data Call 66. Please review this data, especially the columns regarding contract workyears which will either be eliminated or transferred as a result of the closure/realignment action. Sum of workyears transferred + eliminated + remaining at activity must equal Total Contract Workyears. Annotate corrections as necessary.

[...]C	NAME	MAJOR CLAIMANT	TOTAL CONTRACT WORKYEARS	NO. OF WORK-YEARS TO BE TRANSFERRED	NO. OF WORK-YEARS TO BE ELIMINATED	NO. OF WORK-YEARS REMAINING AT ACTIVITY
[...]533	NSWC CARDEROCK DIV DET	COMNAVSEASYS	101[5]	77	20	4
		TOTALS:	101[5]	77	20	4

Note: 5 *See Attachment II, DJD 05.*

2-11R Impacts of delays

2-7R, 210R, 212R Justication retention capability (relocating)
2-14R, 2-16R

2-17R ~~Don't understand~~ people to Carderock 1 off + 2 enlisted
isn't this BRAC 91? 10 off (person doesn't exist)

2-19R Seems to move people BRAC 91 Carderock / White Oak
magnetic fields lab

2-25R Fire equipment -- who does work at
ONR -- is this add'l cost?

2-29R Eliminated positions; are these BRAC related
where's duplication

2-31R Baseline 415?

2-33R Why not count contract termination $11.2M
also 2-42R +4.7M + 1.0 M

2-33R Depreciation $8.919/yr? also 2-42R

Notes

2-35R Moving costs
2-37R Risk of incomplete CFC
2-23R

ATTACHMENT II -- BASE STRUCTURE ANALYSIS TEAM (BSAT) REQUESTS FOR CLARIFICATION

BSAT Control Number	Date	Comments
DJD 01	29 Nov 94	
None	30 Nov 94	Referred to as DJD 02
DJD 03	29 Nov 94	
DJD 04	30 Nov 94	
None	01 Dec 94	Referred to as DJD 05
DJD 06	02 Dec 94	Complete resubmission of Scenario #3-20-0198-035A. Not included as part of this Attachment.
DJD 07	02 Dec 94	
DJD 08	03 Dec 94	
DJD 09	03 Dec 94	
DJD 010	05 Dec 94	
DJD 011	05 Dec 94	
DJD 012	05 Dec 94	
DJD 013	06 Dec 94	
DJD 014	06 Dec 94	
DJD 015	06 Dec 94	
DJD 016	07 Dec 94	
DJD 017	07 Dec 94	
DJD 018	07 Dec 94	
DJD 019	07 Dec 94	
DJD 020	07 Dec 94	
DJD 021	08 Dec 94	
DJD 022	08 Dec 94	
DJD 023	09 Dec 94	
DJD 024	12 Dec 94	
DJD 025	13 Dec 94	
DJD 026	13 Dec 94	

BSAT REQUEST FOR CLARIFICATION -- DJD 01

ATTACHMENT II

TO: M. PATE 1100 11/29

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control #: DJD 01
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

Date sent: 29 Nov 94

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035:
This fax is to inform you that I have asked Mr. Richard Metroy to provide the following:

1. A breakout (by type of contract) of the $17M of contract termination costs on p.2-24.
2. An itemization of the $1,100K of moving, installation & certification of computer systems on p.2-25. Are there more computers being costed here than the one mainframe for the non-Navy tenant?
3. A resolution of the two total facility space figures (629 KSF on p.2-32 & 614 KSF in Attachment 1)

I need the following additional information as well (I have not conveyed this to Mr. Metroy yet):

1. I'm guessing that the $1M recurring cost for the non-Navy tenant is for all the Joint Spectrum center's personnel to be housed off-base (approximately 840 people according to CDR Walker). I need the annual lease cost for only the approximately 140 employees currently at the Annapolis site.
2. Why is the $255K to mothball the Deep Ocean Pressure Facility a recurring cost (p.2-29)?

I need this information by COB today.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

See the attached pages as follows for the answers to the above questions: pg 2-17R --Question #2; pg 2-24R --Question #1; pg 2-25R --Question #2; pg 2-29R --Questions 1(new) & 2(New) and Attachment 1 --Question #3. In regard to the questions related to the DoD Joint Spectrum Center (JSC), responses above reflect the full extent of information provided in the JSC's certified response.

Peter S. Mon[illegible]	NSWC 011	(301) [illegible]	11/29/94
Name	Code	Commercial Phone #	Date

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
ENCLOSURE (2) - LOSING BASE QUESTIONS

Table 2-B (5): Disposition of Personnel and Equipment - Summary

From Losing Base: NSWC - Annapolis

To Gaining Base: Annapolis, MD - Leased Space (See Note Below Table 2-B(5)

	1996	1997	1998	1999	2000	2001	Total	
Officer Billets	0	11	0	0	0	0	11	
Enlisted Billets	0	8	0	0	0	0	8	
Civilian Positions	0	115	0	0	0	0	115	
Military Students	0	0	0	0	0	0	0	
Tons of Mission Equipment	0	See Note Below	0	0	0	0	See Note Below	R LRW 11/29
Tons of Support Equipment	0	See Note Below	0	0	0	0	See Note Below	R LRW 11/29
Number of Light Vehicles	0	0	0	0	0	0	0	
Number of Heavy Vehicles	0	0	0	0	0	0	0	

NOTE: This accomodates the Electromagnetic Frequency Sprectrum Management facility, presently a Tenant at the NSWC Annapolis Site. It is a fully DoD owned and operated activity. These personnel and equipment reflect the "tenant" levels of the activity and are not of the NSWC Annapolis Siste end strengths.

Supporting Data for Table 2-B (5).

<u>Type of Equipment/Vehicles</u> <u>Rationale for Relocating</u>

NOTE: Cost of moving mission and support equipment was provided by the Joint Spectrum Center and is included in Item 2-F.c.3 on page 2-25R. R LRW 11/29/94

Table 2-F: Dynamic Base Information

Complete the following "Supporting Data" section. Then, summarize this data in the Summary Data Table (2-F) that immediately follows this "Supporting Data" section. Show all entries in ($000).

Table 2-F: Supporting Data:

a. Other One-Time Unique Costs. Identify any other one-time unique costs at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section). Examples include use of temporary office space, lease termination costs, etc. Only costs directly attributable to the closure/realignment action should be identified. This area should not be used to identify routine moving or personnel costs, which are calculated automatically by the COBRA algorithms, nor should it be used to identify one-time unique moving costs which will be addressed separately in item c. below. **For each unique one-time cost, identify the amount, year in which the cost will be incurred and describe the nature of the cost. Do not double count any costs identified on Gaining Base tables (Enclosure (3)).**

Losing Base: NSWC - Annapolis:

	Cost	FY	Description
1.	$11,200K	1996	Contract termination costs; BEST ESTIMATE due to varying contract types and termination dates
	$ 4,700K	1997	SEE NOTE BELOW.
	$ 1,000K	1998	
2.	$ 2,973K	1999	Depreciation of Capital Equipment: Assumed constant since Data Call #66
3.	$ 15K	1996	Close Library, pack & ship books and periodicals to NSWC, Philadelphia

R PSM 11/29/94

NOTE: Based on total contracting load executed by the supply department (excludes public works contracts) for Annapolis in FY94. Assumes termination of contracts for the convenience of the government and 5-percent escalation per year. Includes 100-percent of the value of firm fixed price contracts, 5-percent of the value of cost/time reimbursable and material services contracts, and 3-percent of the value of indefinite delivery/quantity contracts. Reflects estimated contracting load of Post BRAC 93 Annapolis functions and 50/20/5-percent phase out of contracting load.

R PSM 11/29/94

b. **Other One-Time Unique Savings.** Identify any other one-time unique savings at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section). Examples include net proceeds to DoD resulting from an existing MOU with a state or local government, one-time environmental compliance cost avoidances, etc. This area should not be used to identify routine moving or personnel savings, which are calculated automatically by the COBRA algorithms. Do not include Construction Cost Avoidances (which were identified in a separate data call), or Procurement Cost Avoidances (which are covered under item i. below). For each savings, identify the amount, year in which it will occur and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. Do not double count any savings identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC - Annapolis

Cost	FY	Description
1. None		

c. **One-Time Unique Moving Costs.** The COBRA algorithms use standard packing and shipping rates to calculate the cost of transporting equipment and vehicles. Identify here only those unique moving costs associated with movements out of the losing base that would be incurred in addition to standard packing and shipping costs associated with tonnage and vehicles identified in Table 2-B. Examples of unique moving costs include packing, special handling or recalibration of specialized laboratory or industrial equipment: movement of special materials, etc. If unique costs identified here include packing and shipping costs, then ensure that tonnage for this "unique" equipment is not included under the Mission and Support equipment identified in Table 2-B. For each cost included in the table above, identify the amount, year in which the cost will be incurred, the name of the gaining base and a brief description of the cost.

Losing Base: NSWC - Annapolis

Cost	FY	Gaining Base	Description
1. $600K	1997	NSWC - White Oak	Disassemblyof Electromagnetic Large Scale Model & reassembly & Calibration at NSWC - White Oak
2.$ 4K	1997	NSWC - Philadelphia	Disassemble, pack, ship, and reassemble specialized training equipment
3.$1,100K	1997	Annapolis, MD Leased Space	Move of all Joint Spectrum Center property including installation and certification of the mainframe computer. R: LRW 11/21/94

Note: "Annapolis MD Leased Space" corresponds to the ~~Electromagnetic Frequency Spectrum Management facility~~ Joint Spectrum Center, a Non-DoN tenant activity at this site. R: LRW 11/21/94

f. **Miscellaneous Recurring Costs.** Identify any other recurring costs at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., new leases of facilities or equipment, etc. For each cost, identify the amount, year in which the cost will begin and describe the nature of the cost. Only costs directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances or CHAMPUS costs, all of which are calculated by other COBRA algorithms.) Do not double count changes in Mission costs shown above. Do not double count any costs identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC - Annapolis

	Annual Cost	FY	Description	
1.	$ 255K	All	Mothball cost for Deep Ocean Pressure Facility SEE NOTE 1	1R
2.	$1,000K	All	Cost of leasing office space in Annapolis area for Joint Spectrum Center SEE NOTE & NOTE 2.	LRW 11/29/94 1R

NOTE: The "Lease Costs" accommodates the *Joint Spectrum Center*, presently a tenant at the NSWC Annapolis Site. It is a DOD owned and operated activity. R LRW 11/22

NOTE 1. The recurring cost provides basic services (environmental controls) to the specific area housing the Deep Ocean Pressure facility. The environmental controls are required to maintain the future certifiability of this high pressure tank system. Environmental Controls consist of maintaining facility temperature sufficiently above the freezing point of water in Winter to preclude the possibility of damage due to the expansion of frozen water, purging of and placing a nitrogen blanket in the gaseous portions of the system to prevent the possibility of corrosion within pipes, and control of humidity throughout the facility to control the rate of corrosion on the exterior portions of the facility. This cost was obtained from a proportionate allocation of cost to retain in a "reserve" status from the Detailed Inventory of Naval Shore facilities (NAVFAC P-164). R LRW 11/29

NOTE 2. The $1 M recurring cost is for the 134 Joint Spectrum Center (JSC) personnel to be housed at a collocated site with the approximately 700 contractor personnel already at Admiral Cochran Blvd in Annapolis. The recurring $1M does not include any costs for the 700 personnel already at that site.

g. **Miscellaneous Recurring Savings.** Identify any other recurring savings at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., elimination of leases of facilities or equipment, etc. For the savings, identify the amount, year in which each will begin and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances, CHAMPUS costs or salary savings for eliminated positions/billets, all of which are calculated by other COBRA algorithms.) Do not double count changes in Mission Costs shown above. Do not double count any savings identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC - Annapolis

	Annual Savings	FY	Description
1.	None		

BRAC-95 SCENARIO DEV[illegible]OPMENT DATA CALL
ATTACHMENT 1: BASE LOADING DATA

PART 5: TOTAL FACILITY SQUARE FEET. This is the total Class 2 facility square feet, excluding family housing, MWR and utilities, as reported in the Naval Facilities Assets Data base (NFADB). This figure is used in determining the number of square feet which will be "shut down" as a result of the closure action.

Total Facility Square Feet (in thousands): 0 Note 3

PART 6: BASE OPERATING SUPPORT (BOS) COST DATA. This is the total BOS costs reported for the host and tenant activities in Data Call 66. Please review this data and ensure that it is consistent with FY 1996 OSD Submit Budget data. If BOS cost data needs to be revised, specific revisions should be noted on a revised copy of the appropriate Data Call 66 table(s), which should then be returned with this data call response.

NAME	MAJOR CLAIMANT	[illegible] RPMA NONPAY	[illegible] RPMA PAY	[illegible] OBOS NONPAY	[illegible] OBOS PAY	DBOF RPMA NONPAY	DBOF RPMA PAY	DBOF OBOS NONPAY	DBOF OBOS PAY	TOTAL RPMA NONPAY	TOTAL RPMA PAY	TOTAL OBOS NONPAY	TOTAL OBOS PAY
NSWC CARDEROCK DIV DET	COMNAVSEASYSCOM	[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TOTALS:		[illegible]	[illegible]	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

(2973 (2973
9057 9057

NOTE 4

R

(Ref. NAVFAC P-164 Report dtd 30 Sep 93)

Note 3. Part 5 Total Facility Square Feet should be ~~614~~ 629 KSF gross building area (~~See Data Call #4~~)

Note 4. DBOF OBOS Non-Pay and Total OBOS Non-Pay should be increased by $2,973 K to reflect depreciation of capital equipment

RLN
11/29/94

BSAT REQUEST FOR CLARIFICATION -- DJD 02

ATTACHMENT II

Department of the Navy
Base Structure Analysis Team

BSAT

Maura Pat
1150 11/30

Facsimile Transmission
Cover Sheet

NSWC Annapolis — DOD tenant

Date: 30 November 1994

From: Don DeYoung
Office: (703) 681-0478
Fax: (703) 756-2174

To: Jim Logan or Judith Atkins
Org: Naval Sea Systems Command
Office:
Fax: 703-602-0541

Message:

1. Using the function categories in the attached table, identify — for both alternatives - - the categories of proposed moved and eliminated billets. Show moved and eliminated separately. Also, group the FY96 baseline manpower data — shown in Table 2-D of the scenario responses — in the same function categories.

2. Provide the following information for the Joint Spectrum Center.
   - number of officer, enlisted, military student, civilian positions to be relocated.
   - cost of moving only the mainframe computer
   - # of square feet of leased space required to accommodate the 134 personnel moving.

3. I need this data by 1600 today.

Number of Pages (including cover page): 2

Table 4.1, General Support Resources for
(Activity:_______________) (UIC:_______________)

[illegible]						
[illegible]						
Command (CO/XO/TD/etc.)						
Comptroller						
Admin						
Human Resources						
[illegible]						
Supply Management						
Consolidated Computational Computer Support						
Information Systems and Communications						
Safety/OSH/Environmental						
[illegible]						
Physical Security						
Public Works/Staff Civil Engr						
Fire Protection						
Medical/Dental						
Military Support						
Air/Waterfront Operations						
Other						
[illegible]						
Technical Operations						
[illegible]						

page_____ of_____
UIC_____________

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: No Control Number Provided
Receipt of Request: 1240 Hrs
Due Time: 1600 Hrs

1. **Using the function categories in the attached table, identify - for both alternatives - the categories of proposed moved and eliminated billets. Show moved and eliminated separately. Also, group the FY96 baseline manpower data - shown in Table 2-D of the scenario responses - in the same function categories.**

<u>Response</u>: The table provided for the response included a discrimination between the infrastructure organizations and the technical operation personnel. Both the baseline scenario and the alternative scenario provide for the elimination of all infrastructure personnel. Please see attached summary table for the respective comparisons.

2. Provide the following information for the Joint Spectrum Center:

a. **What is the number of officer, enlisted, military student, civilian positions to be relocated?**

<u>Response</u>: Per Table 2B(5)

Officers	11
Enlisted	8
Civilian	115
Military Students	0

b. **What is the moving only the main frame computer?**

<u>Response</u>: Per your request, we have contacted the Joint Spectrum Center to obtain the information. They have advised that the estimate of $1.1M includes the movement of all their facilities to a leased space at Annapolis. Due to the nature of their business, we were unable to obtain any additional information or break-outs of equipment, etc.

c. **What is the number of square feet of leased space required to accomodate the 134 personnel moving?**

<u>Response</u>: The Joint Spectrum Center currently occupies thirty-six thousand (36,000) square feet at NSWC-Annapolis. It is understood it intends to lease the same amount of space for those functions potentially being displaced from the Annapolis site.

NSWC-Annapolis UIC: 61533

	3-20-0198-035			3-20-0198-035A		
	Start	Moved	Elim	Start	Moved	Elim
Command (CO, XO,TD, etc.)	2	1	1	2	1	1
Comptroller	0	0	0	0	0	0
Admin	1	0	1	1	0	1
Human Resourses	2	0	2	2	0	2
Supply Management	7	0	7	7	0	7
Consolidated Computational Computer Support	0	0	0	0	0	0
Information Systems and Communications	1	0	1	1	0	1
Safety/OSH/Environmental	4	0	4	4	0	4
Physical Security	9	0	9	9	0	9
Public Works/Staff Civil Engr	30	0	30	30	0	30
Fire Protection	0	0	0	0	0	0
Medical/Dental	0	0	0	0	0	0
Military Support	0	0	0	0	0	0
Air/Waterfront Operations	0	0	0	0	0	0
Other	0	0	0	0	0	0
Technical Operations	376	175	201	376	280	96
Total	432	176	256	432	281	151

BSAT REQUEST FOR CLARIFICATION -- DJD 03

ATTACHMENT II

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control #: DJD 03
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

Date sent: 29 Nov 94

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0208-035 and 35A:

1. In comparing the scenario response and its accompanying alternative, I see that the contract termination costs for both scenarios are exactly the same. Why do these costs remain the same when the alternative retains R&D functions that the scenario response does not? Since you are transferring R&D functions to Philadelphia, Carderock, White Oak, and NRL, why wouldn't these contracts be modified to change the service site or shipping destination? If termination costs will be required, each contract requiring such action must be provided with a detailed description of what is being purchased, why it is more economical to terminate, the total contract value and unpaid balance, and methodology for estimating termination costs.
2. Why can't the existing fire testing facilities at NRL do all of the work identified in the scenario responses? NRL has extensive fire test facilities, including the Fire Research Enclosure (10,000 cu ft) and ex-USS SHADWELL (9,000 tons) test bed. I need this information by 1900, 30 November.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:
Please see attached pages

W. A. Middleton/Mr. Metry	014/01	301-227-3186/1628	11/30/94
Name	Code	Commercial Phone #	Date

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 03

1. In comparing the scenario response and its accompanying alternative, I see that the contract termination costs for both scenarios are exactly the same.

a. **Why do these costs remain the same when the alternative retains R&D functions that the scenario response does not?**

Response: The cost profile was based upon best estimate of FY94 baseline data projections to FY98. Though it is natural to assume some decreases could be obtained, any percentage decrease assumed at this time would be purely speculative. Given additional analysis time, an accurate response could be provided with the appropriate certification.

b. **Since you are transferring R&D functions to Philadelphia, Carderock, White Oak, and NRL, why wouldn't these contracts be modified to change the service site or shipping location?**

Response: Per the below discussion, contracts would be structured after "closure" determination to minimize terminations and increase the use of multiple service sites and/or shipping locations.

c. **If termination costs will be required, each contract requiring such action must be provided with a detailed description of what is being purchased, why it is more economical to terminate, the total contract value and unpaid balance, and methodology for estimating termination costs.**

Response:

a. The response provided by the BRAC Scenarios 3-20-0198-035 and 3-20-0198-035A included the below assumptions:

- The FY94 Contracts baseline would remain the same level of magnitude and contract lengths;
- The termination costs were defined per the types of contracts;
  (1). Indefinate Quantity (IDIQ), both Cost Plus Fixed Fee (CPFF) and Firm Fixed Price (FFP), were given a 3% termination fee;
  (2). CPFF were given a 5% termination fee;
  (3). Cost Reimbursable were given a 5% termination fee;
  (4). FFP were given a 100% termination fee; and
  (5). Time and Materials were given a 5% termination fee.
- Due to time constraints, the distribution of FY94

contracts between the Post BRAC 91 retained functions and the present on-board functions were assumed to be evenly distributed, i.e. FY94 contracting values were halved for this analysis.

- Post FY94 contracting levels were escalated by 5% per year for inflation.
- The contracting levels were phased downward from the "start of closure" levels to "zero" by FY99.

b. The requested detailed cost analysis for the most cost effective option of "termination" versus realignment of the contract to the Philadelphia site requires the examination of each contract that will be in existence at the time of letting/termination. The baseline data impacting desired resulting analyses include knowledge of the type of contract, the duration/type of the deliverables, the company providing the product and/or services, and the foreknowledge of the availability of the collateral functions in the Philadelphia site. This analysis will require at least two weeks of detailed work by the Contracts staff.

c. It should be noted that upon alertment of firm closure of the Annapolis Site, the Command would phase the contract types to minimize termination costs and increase the potential for direct transfer of deliverables with minimal increased costs.

Question 2: Why can't the existing fire testing facilities at NRL do all of the work identified in the scenario responses? NRL has extensive fire test facilities, including the Fire Research Enclosure (10,000 cu.ft.) and ex-USS SHADWELL (9,000 tons) test bed.

The existing fire testing facilities at NRL do not duplicate and are not adequate for the intermediate-scale fire testing work identified in the scenario response. The Fire Research Enclosure (Fire-1) (located at Chesapeake Beach Detachment) and the ex-USS SHADWELL (located in Mobile, AL) are extremely large-scale, custom-built, and specialized facilities dedicated to validate and certify full-scale ship fire scenarios for active and passive fire protection systems. The other existing facilities at NRL are large-scale burn chambers, which are not suitable to perform intermediate-scale fire testing without modification. However, these burn chambers are necessary in their present configurations to meet existing Navy requirements. The other facilities at Chesapeake Beach are primarily open building spaces, which do not contain the specialized intermediate-scale equipments being transferred from NSWC, Carderock Division, Special Area (NIKE Site) as identified in the scenario responses. This specialized equipment includes: a room-size calorimeter, a large-scale, customized variable heat rise furnace, and two intermediate scale burn chambers containing accessories, controls and associated instrumentation needed to operate them. The unused building space at NRL/CBD can be easily modified to house the aforementioned specialized equipment, that is necessary to execute the intermediate-scale fire testing function/requirement. Intermediate-scale fire testing is a cost-effective means to screen and select fire protection system alternatives, which are then validated and certified with associated higher test costs in the full-scale NRL facilities (Fire-1 and ex-USS SHADWELL).

BSAT REQUEST FOR CLARIFICATION -- DJD 04

ATTACHMENT II

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control #: DJD 04 Date sent: 30 Nov 94
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0208-035 and 35A:

1. NSWC Carderock has very capable Deep Submergence Pressure Tanks that are also funded by the same Navy and non-Navy sponsors as the Deep Ocean Machinery and Vehicles Pressure Simulation Facility at Annapolis. Explain what functions the Deep Ocean Facility performs that the Deep Submergence Pressure Tanks at Carderock can't perform?
2. Explain why the Navy must maintain the future certifiability of the Annapolis facility.
3. I don't understand "reserve status." Is it the same as "mothball status"?
4. Can't the environmental controls required for future certifiability be relaxed if the gases and fluids in the Annapolis facility were bled? If so, how would that affect the cost estimate for "mothballing"?
5. When was the Annapolis facility built?
6. Who funds the Joint Spectrum Center?

I need this information by 1100, 1 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:
Please See Attached Pages (4)

Name	Code	Commercial Phone #	Date
Dr. W. Middleton, Mr Metrey	01A/01	301-227-3186	12/1/94

DEC 21 '94 08:24AM NSWC P.3/3

Scenario Development Data Call # 3-20-0188-035/A
CLARIFICATION/CORRECTION REQUEST
Reference: BSAT Control #: DAD 04
Received: 0824 Hrs On 12/1/94
Due: 1100 Hrs On 12/1/94

1. "NSWC Carderock has very capable Deep Submergence Pressure Tanks that are also funded by the same Navy and non-Navy sponsors as the Deep Ocean Machinery and Vehicles Pressure Simulation Facility at Annapolis. Explain what functions the Deep Ocean Facility performs that the Deep Submergence Pressure Tanks at Carderock can't perform?"

Response:

The Annapolis and Carderock site operations are funded under the DBOF program. As noted in your question, some of the funding is provided by the US Navy programs and other from the commercial base (both domestic and foreign). However, as noted in the responses to the below questions, the difference in the testing capabilities usually provides for different customer bases.

A summary of the primary differences between the Annapolis Deep Ocean Machinery and Vehicle Pressure Simulation Facility and the pressure vessels at the Carderock Site are provided in the attached table. As may be noticed, one of the most important distinctions is that the Annapolis facility is both man-rated and performs hard cycling. The concept of "hard cycling" versus "soft cycling" is explained at the bottom of the table. Hard cycling is required for the testing of machinery and manned vehicle systems.

In addition, the Annapolis facility capability to place large horizontal vehicles (both manned and unmanned) under certified "man safe" conditions is unequaled. In addition, the temperature controlled feature combined with very deep pressures provides the ability to test deep ocean connectors (as recently performed for AT&T). A recent example of the utility of the Annapolis facility capability is the closure of the United Kingdom's smaller and less capable systems with the intent to utilize the facility which the NSWC Carderock Division wishes to retain at the Annapolis site.

The deep pressure vessels located at the Carderock Site are equally unique in their ability to conduct structural testing of advanced hull shapes and materials. Their ability to perform dynamic and static pressure loading on vertically oriented models replicates the free field characteristics necessary for fatigue and fracture testing. These pressure vessels and control systems are not capable of being modified to perform horizontal vehicle or man-safe operations. In addition, neither can the Annapolis site facility be modified for the vertical structural loading testing capabilities.

2. "**Explain why the Navy must maintain the future certifibility of the Annapolis facility.**"

Response:

There are no other equivalent facilities in the western world that have the capability to evaluate and qualify vehicles, deep ocean machinery, large size composite structures, and fiber optic cable designs for both the Navy and commercial applications at deep ocean pressures.

As stated above, the Annapolis Deep Ocean Machinery and Vehicle Pressure Simulation Facility's capability to perform rapid pressure changes ("hard cycling") under controlled water temperature conditions (to ensure material properties are being simulated as in real world conditions) is unique in the World. Certification ensures the capability to conduct both manned and unmanned vehicle testing safely and responsively. Not only is it technically prudent to maintain a certified responsive capability for this unique asset, it is necessary to have a rapid response capability to meet emergency investigative requirements, as in the Thresher investigation and related manned submersible certifications.

3. **"I don't understand 'reserve status.' Is it the same as 'mothball status'?"**

Response:

Yes. The basic document used for estimating the cost of moth balling does not include a category by that specific title. The "reserve" category in that document, NAVFAC P-164- Detailed Inventory of Naval Shore Facilities, is the same as mothball, i.e. it is the category between "standby" and "abandon".

4. **"Can't the environmental controls required for future certifibility be relaxed if the gases and fluids in the Annapolis facility were bled? If so, how would that affect the cost estimate for 'mothballing'?"**

Response:

It was assumed that gases and fluids would be bled from the Deep Ocean Pressure facility equipment. With the exception of the water, all other fluids (Glycol, Freon, lubrication, and hydraulic oils) are essentially preservatives and best left in place to protect the equipment. The temperature control is required to prevent excessive condensation and the freezing of any residual fluids that remain in the system at low points.

5. **"When was the Annapolis facility built?"**

Response:

The facility was built in 1970 with an estimated life span of 44 years (i.e. 2014).

6. **"Who funds the Joint Spectrum Center?"**

Response:

The Joint Spectrum Center (JSC) was established from the Electromagnetic Compatibility Analysis Center (ECAC) in mid September, 1994. Prior to FY95, the funding was provided under PE 33144F (Air Force) as well as through the Industrial Funding program (similar to the present DBOF).

Through FY95, the Air Force will remain the Executive Agent for the JSC. Starting in FY96, DISA is scheduled to become their executive agent and will include the JSC operations within their budget.

LARGE PRESSURE TANKS FEATURES
NSWC — CARDEROCK DIVISION

Site	Annapolis	Carderock	Carderock
Geometry	10-Foot Diameter Opening, 27 Feet in Internal Length	13-Foot Diameter Opening, 40 Feet in Internal Length	10-Foot Diameter, Spherical
Maximum Pressure	12,000 PSI	3,000 PSI	10,000 PSI
Cycle*			
Hard	0 PSI → 4,000 PSI (Max.) → 0 PSI in One Minute (Rated for 2,000,000 Hard Cycles)	N/A	N/A
Soft	11,600 PSI Pressure Differential	2,600 PSI Pressure Differential	9,600 PSI Pressure Differential
Heat Removal Capacity (Max.)	1,500,000 BTU/HR, Annapolis Site has 120 Ton of Refrigeration and Associated Support Equipment (Heat Exchangers, Piping, High Pressure Circulation Pumps) in Place	Refrigeration Equipment is Available to Cool these Tanks to 35°F and Maintain at that Temperature Provided Tanks are Being Used to Test Items that do not Generate Heat.	
Orientation	Horizontal	Vertical	N/A (Spherical)
Construction	Two Layer; Acoustically Quiet, No Liner Needed	Multi-Layer; Not Acoustically Quiet, Liner Needed	Multi-Layer

* There are two types of Pressure Cycling. The first type, called Soft Cycling, is a patented system which allows cyclic testing by varying pressure within model and keep tank pressure constant. The second type, called Hard Cycling, subjects the test object to an external pressure up to the maximum-rated capacity of the pressure tank while keeping the inside of the test object at normal atmospheric conditions, thus permitting testing of manned vehicles.

BSAT REQUEST FOR CLARIFICATION -- DJD 05

ATTACHMENT II

Pursuant to the 12/1/94 telephone direction from Mr. Don DeYoung, the below changes to the Attachment 1: Base Loading Data are certified:

To correct the addition of the below components, change the "Total Contract Workyears" from 102 to 101:

No. of Work Years To Be Transferred	= 77
No. of Work Years to be Eliminated	= 20
No. of work-years remaining at the activity	= 4
Total Contract Workyears	=101

BSAT REQUEST FOR CLARIFICATION – DJD 07

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 07
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

Date sent: 2 Dec 94

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-~~0208~~-0354; 0178

1. Previous response to RFC #DJD04 stated that the "Annapolis facility capability to place large horizontal vehicles (both manned and unmanned) under certified "man safe" conditions is unequaled..." When was the last time that a manned vehicle was tested in the facility? How many times over the last five years? What would be the risk to the Navy if the facility were closed? Where would the United Kingdom go for its testing if the Annapolis site is closed?

2. Page 1-3 states that the capability to conduct land based high pressure acoustic measurements of submarine baffling would be mothballed. What facility is this? What is the near and long term risk to the Navy for the loss of this capability?

3. Page 1-4 cites the elimination of the potable water supply for Navy housing. What options can be exercised to provide water service to the housing units? What would be the impact of closing the fuel storage and refueling site for the Naval Academy's Yard Patrol craft? Can the Academy receive this service from another source?

I need this information by 1500, 3 December.

Don DeYoung (703) 581-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:
Please see attached sheets

Name	Code	Commercial Phone #	Date
Mr Metrey	01	301-227-1515	12/3/94

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 07
Received: 1002 Hrs; 3 Dec 94
Due: 1500 HRS; 3 Dec 94

1. **Previous response to RFC #DJD04 stated that the "Annapolis facility capability to place large horizontal vehicles (both manned and unmanned) under certified "man safe" conditions is unequaled..."**

a. **When was the last time that a manned vehicle was tested in the facility?**

Response: 1983, the Pices IV vehicle.

b. **How many times over the past five years?**

Response: None. However, the facility has been used continuously for qualifying and evaluating equipment and systems for the Navy's Deep submergence assets (manned and unmanned). The need for the facility lies in its ability to support manned vehicle tests (i.e. tests while the vehicle is occupied by humans) when the requirement exists. As there are few such vehicles, the need exists on demand vice "production base" concepts.

c. **What would be the risk to the Navy if the facility were closed?**

Response: At sea testing would have to be conducted, with the inherent risks to human life due to potential catastrophic failures.

c. **Where would the United Kingdom go for its testing if the Annapolis site closed?**

Response: The United Kingdom has advised the US Navy that it had recently "moth balled" their facility and were planning on using the Deep Ocean Pressure Facility located at the Annapolis Site. The NSWC Carderock Division has no knowledge of what alternative plans may have been discussed or addressed by the United Kingdom.

2. **Page 1-3 states that the capability to conduct land based high pressure acoustic measurements of submarine ballasting would be mothballed.**

a. **What facility is this?**

Response: The Submarine Fluid Dynamics Laboratory (reference BRAC 95 Data Call #5, Tab B) provides for the measurement of high pressure acoustic measurements of submarine ballast systems and related valve configurations. It is a major test element in the development of advanced submarine stealth subsystems. These measurements are conducted on both existing and new design valves and piping configurations for the purposes of reducing the flow noise under varying valve positions, piping angles, and "necking down" conditions. The ability to conduct flow acoustics under isolated and high pressure conditions does not exist at any government or commercial site. Its estimated replacement value is $15M.

c. **What is the near and long term risk to the Navy for the loss of this capability?**

Response: As this is the only facility of its kind, the loss of this capability would be eliminate the ability to conduct land-based ballast and piping low ambient acoustic testing.

(1). Near Term: In the near term, the present vehicle radiated acoustic ambients would have to suffice and any lower threshold acoustic ambients due to ballasting operations would have to be met through the use of full scale testing. This would most likely require "dry docking" of an operational submarine, making the appropriate modifications, and conducting the trials at sea. Full scale operations could be restricted due to the SUBSAFE certification requirements, depending upon the extent and location of the piping/valving modifications. If the facility is only "moth balled", then during an emergent situation, it could be re-opened for special testing.

(2). Long Term: In the long term, the loss of this capability will eventually eliminate the knowledge base and ability to develop advanced low ambient acoustic valves and piping with the resultant decrease in the stealth of the submarine force.

2. **Page 1-4 information questions:**

a. **Page 1-4 cites the elimination of the potable water supply for Navy housing. What options can be exercised to provide water service to the housing units?**

Response:

The North Severn Navy housing is dependent upon the potable water supplied by the NSWC Annapolis site. The local water supplies are inadequate to support these requirements. Potential options include:

1). Construct a new potable water treatment facility for either a public utility or other operating agency for the Navy housing units at a location off the Annapolis site. As such analyses are the purview of the NAVFACENGCOM, no detailed cost analysis for this option has been performed by the NSWC Annapolis personnel.

2). Continue the operation of the existing facilities. As the BRAC 95 Scenario guidance stated that the Annapolis site must be closed, Option 2 was not included in the scenario response.

b. **What would be the impact of closing the fuel storage and refueling site for the Naval Academy's Yard Patrol Craft?**

Response: The Naval Academy would have to obtain the required services from another source.

c. **Can the Academy receive this service from another source?**

Response: The fuel storage and refueling support functions for the Naval Academy's Yard Patrol Craft is part of the site host functions. As such, the below potential options could be examined by either the Naval Academy or other activity:

(1). Utilize commercial docking and refueling resources. The technical requirements (due to fueling hose and connection differences from commercial resources), environmental requirements, capacity, and related issues would need to be examined for feasibility;

(2). Build another facility at another site. Again, environmental and cost elements would need to be addressed by the proper authorities.

(3). Maintain the existing facilities at the present site. As the BRAC 95 Scenario guidance stated that the Annapolis site must be closed, this option was not included in the scenario response.

BSAT REQUEST FOR CLARIFICATION -- DJD 08

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DID 08
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

Date sent: 3 Dec 94

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. What necessary technical capabilities does the Magnetic Silencing Facility at White Oak possess that, when combined with the MFL, meets the Navy's requirements in this area? If these combined facilities need to be retained, what other site(s) than Annapolis and White Oak would be suitable (e.g., NSWC-Philadelphia)? How much would the relocations to this site(s) cost?
2. Please identify the number of personnel that are proposed to be relocated with each facility on the attached chart.
3. Why is it important to transfer the three Information Management Systems billets, to NSWC-Carderock? Why transfer the officer billet? The critical need to retain them is not readily apparent when they do not currently reside with the rest of the function at Carderock.
4. What other Navy, DoD, or private sector sites are currently performing, or are capable of performing, the non-CPC work that would be eliminated under the proposed scenario? With the potential costs to the Navy being so high, why aren't the non-CPC laboratories proposed for relocation?

I need this information by 1700, 4 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: Please see attached pages

Mr. Metrey	01	301-227-1628	12/4/94
Name	Code	Commercial Phone #	Date

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 08
Received: 1157 Hrs; 4 Dec 94
Due: 1700 HRS; 4 Dec 94

1. Below questions and responses apply:

a. **"What necessary technical capabilities does the Magnetic Silencing Facility at White Oak possess that, when combined with the MFL, meets the Navy's requirements in this area?"**

Response:

The technical capabilities incorporated in the Magnetic Silencing Facility at White Oak complement those at the Annapolis site. The White Oak site concentrates on the magnetic signature reduction and control for steel-hulled surface ships, closed loop degaussing, and Mine-Counter Measure ships. Its focus is upon reducing the electromagnetic influence signatures in the field of mine countermeasures.

The technical capabilities residing at the Magnetic Fields Laboratory at Annapolis encompass the submarine machinery and hull electromagnetics signature characterizations, reductions, and control, which does not exist elsewhere. Large scale submarine models and actual shipboard machinery (up to 40 tons weight) magnetic signature measurements are conducted. These test capabilities are critical to reducing the risks of electromagnetic detection by surveillance and ordnance systems.

Combining these technical capabilities into a single magnetic fields facility would meet the Navy's total critical electromagnetic R&D requirements.

b. **"If these combined facilities need to be retained, what other site(s) than Annapolis and White Oak would be suitable (e.g. NSWC-Philadelphia)?"**

Response:

Both the Magnetic Fields Laboratory at NSWC, Annapolis Detachment and the Magnetic Silencing Facility at NSWC, White Oak Detachment require special site considerations. These include the absence of ferrous materials within a 3-D arc of the operations. In addition, a relatively steady state earth field must exist in the geographic location.

Based upon known conditions and the need to retain the critical technologies near the other ship and submarine signature reduction functions, an alternative site for collocating both the Magnetic Fields Laboratory at NSWC, Annapolis Detachment and the Magnetic Silencing Facility at NSWC, White Oak Detachment would be the NSWC, Carderock site. Unlike the NSWC Philadelphia Detachment site, the NSWC, Carderock site has excellent records in the burial of ferrous materials, is not a low altitude "fly over" zone (which perturbs magnetic fields), and has the adequate control on ferrous material interventions.

c. "**How much would the relocations to this site(s) cost?**"

<u>Response</u>:

Scenario 3-20-0198-35A which contained the cost for the partial replication of the Magnetic Fields Laboratory at NSWC, Annapolis Detachment was quoted at $5M. This cost provided for the maximum utilization of existing buildings, power supplies, infrastructure support (roads, personnel facilities, etc.) adjacent to the Magnetic Silencing Facility at the NSWC, White Oak Detachment site.

Scenario 3-20-0198-42A which contained the cost for the partial replication of the Magnetic Silencing Facility at the NSWC, White Oak Detachment site adjacent to the Magnetic Fields Laboratory at NSWC, Annapolis Detachment was quoted at $2M. This cost, as in the case of Scenario 3-20-0198-35A, provided for the maximum utilization of existing buildings, power supplies, infrastructure support (roads, personnel facilities, etc.) at the NSWC, Annapolis Detachment.

The combining of the two facilities at the Carderock site, as at any other site, would require an in-depth engineering study. The engineering study would need to examine the full building, power, and environmental considerations for a merged synergistic capability. There is insufficient time during this query period to conduct and provide the required financial data.

Though such an engineering study is required, an approximate cost for fully replicating the two facilities at another site, e.g. Carderock, is $20M.

2. "**Please identify the number of personnel that are proposed to be relocated with each facility on the attached sheet.**"

<u>Response</u>: Please see annotations on attached tables.

3. **The below questions and responses apply:**

a. "**Why is it important to transfer the three Information Management Systems billets, to NSWC-Carderock? The critical need to retain them is not readily apparent when they do not**

currently reside with the rest of the function at Carderock."

Response:

Tables 2-A(2) and 2-B(2) of the Scenario 3-20-0198-35A state that two civilian billets will be moved to the NSWC Carderock site. As discussed in the narrative below Table 2-B(2), these critical functions are presently being performed utilizing the equipment located at the Carderock site. This scenario provides for the relocation of the personnel, presently working at the NSWC Carderock site but organizationally attached to the NSWC Annapolis site.

b. **"Why transfer the officer billet? The critical need to retain them is not readily apparent when they do not currently reside with the rest of the function at Carderock."**

Response:

There are presently TWO officer billets associated with the NSWC Annapolis Detachment site. The Officer-In-Charge billet would be eliminated under both Scenario 3-20-0198-35 and Scenario 3-20-0198-35A.

It was the NSWC Carderock Division Commander's judgement that the other officer billet now resident at the NSWC Annapolis Detachment site would be required at the NSWC Carderock site in order to retain a pro-rata balance of civilian/military focus within the reorganized Carderock Division.

The fundamental issue goes to the need to ensure that appropriate and current fleet influence, in the form of active duty Naval officers, be reflected in the Navy's research and development Commands. Additionally, billets for active duty officers must be maintained within the Naval Surface Warfare Center as necessary developmental positions for the development of future CO's and Commanders.

The success of the Navy Laboratory/Engineering station program is predicated upon a marriage of Fleet-wise active duty Naval Officers with the engineering and scientific community.

4. **The below questions and responses apply:**

a. **"What other Navy, DoD, or private sector sites are currently performing, the non-CFC work that would be eliminated under the proposed scenario?"**

Response:

No other Navy, DoD, or private sector sites are currently performing the non-CFC work that would be eliminated under the proposed scenario. The Annapolis based team is using all available means to accomodate the international CFC production ban and to minimize the Navy's dependence upon its limited stockpile.

Central to this has been the assembly of an extensive laboratory to characterize non-CFC refrigerant compressors and complete fleet and developmental systems under the full range of "at sea" demand conditions.

Other sites, e.g. York International (York, PA), could be equipped to perform this work if equipments and facilities now installed at Annapolis are relocated. Such a relocation process, coupled with the additional disruption of staff replacement and training will have an adverse impact on the availability of USN systems which use non-CFC refrigerants.

b. **"With the potential costs to the Navy being so high, why aren't the non-CFC laboratories proposed for relocation?"**

Response:

It is recognized that the termination of the Annapolis non-CFC program before its completion, or total disruption through the relocation, will delay the development of CFC-free systems. This will increase pressures on the current limited Navy CFC stockpiles, which will be difficult or impossible to increase now the impending production ban presently in place.

Our alternative proposal, Scenario 3-20-0198-35A, recommended relocation of facilities which maximize our capability retention consistent with constraints to limit total one-time costs. Since there would still be an adverse program impact (even with a relocation of non-CFC facilities) and the relocation costs would be high, such a proposal was considered beyond the "knee of the curve", and was not included.

Facility Name	One-Time Unique Move Cost	Receiving Site	Description // Rationale
Advanced Propulsion Machinery Facility 9	$10.0M	Philadelphia	Consists of a full scale submarine shaftline, full scale submarine shaft seal test facility, and a full scale composite shaft tracer/bending facility including instrumentation, controls and required cooling, lubrication, and other services. // Allows retention of a unique Navy capability to conduct full scale submarine shaftline component and system R&D and qualification/certification
Machinery Acoustics Silencing Facility 32	$4.9M	Philadelphia	An R&D facility consisting of three cells for reduction of submarine machinery acoustic noise from fans, pumps, compressors, motors, hydraulics, and other machinery components. Includes acoustic wall treatment, massive seismically isolated floor, specialized low noise support systems, instrumentation, resilient mount laboratory, and many low noise prototype components. // Retains the Navy's only integral capability to conduct R&D, evaluate, specify, and certify machinery acoustic performance in a land based facility, thus avoiding the prohibitive cost of doing so at sea.
Magnetic Fields Laboratory Additional Site Person(TOTAL REQUIRED AT White Oak 17	$5.0M	White Oak	A very specialized facility including a totally non-magnetic four story building equipped for operation of full scale minesweeper machinery and measurement of its acoustic signature as well as that of large scale models of submarines and surface ships. The capability of simulating ambient magnetic conditions of any location on Earth is included. // Retains the only existing critical capability to measure and certify the magnetic signature of minesweeper machinery

Table 1
Seven Major Facilities Relocated from Annapolis

Facility Name Personnel	One-Time Unique Move Cost	Receiving Site	Description // Rationale
Advanced Shipboard Auxiliary Machinery Facility 20	$2.2M	Philadelphia	Laboratories, test bays and equipment for conduct of R&D, integration, and experimental test and evaluation on compressed air systems, heat exchangers, ventilation systems, fluid systems, piping valves, hydraulic steering and diving systems, fresh water production and composite machinery for surface ships and submarines // Retains critical technical capability rated highest in value at Annapolis
Electric Power Technology Facility 11' 19	$3.0M	Philadelphia	Laboratories, test bays, simulation equipment, multiple interconnected electrical power sources, loads and transmission equipment for conduct of R&D, integration and experimental test and evaluation of surface ship, submarine, and aircraft carrier electric power generation, conversion, and distribution systems and equipment, and solid state power device R&D // Retains the critical test capability rated second in value at Annapolis
Advance Electric Propulsion Development Facility 4	$2.3M	Philadelphia	Laboratory, test bay, and equipment to allow R&D and experimental evaluation of full scale and subscale electric propulsion components and systems up to 3000 horsepower. Includes prime movers, loads, support equipment, and experimental motors and generators. // Retains critical propulsion R&D capability and complements planned full scale electric drive systems testing in Philadelphia
Pulsed Power Facility 5	$2.0M	Philadelphia	Experimental facility including staging and assembly area, prime power and fuel system, high voltage grounding grid, electromagnetic interference shielding, pulse forming networks, transmission lines and power conditioning for R&D and experimental testing and integration of pulsed power electrical sources for future weapons systems // Continue Navy's only integral capability to conduct R&D for future weapons systems powering

BSAT REQUEST FOR CLARIFICATION -- DJD 09

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DID 09
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins   Fax: 703-602-3541

Date sent: 3 Dec 94

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Total facility shutdown is cited as 589 KSF due to mothballed facilities. Please identify these facilities and the amount of space allotted to each.

2. The BSEC statement reads "Close NSWC Det Annapolis, *including special area (NIKE Site)*. Why does the alternative keep the site open when it can be located with the rest of the Ship Materials Engineering Department and when, according to the baseline response, it is clearly feasible to do so? If this equipment must be retained at their present location, justify why this is technically necessary.

3. What are the estimated additional travel costs/savings between Carderock, White Oak, Philadelphia, the NIKE site (035-A only), NRL, and the JSC that would be incurred in the course of performing all of the relocated work? Estimate these costs separately for each scenario.

I need this information by 1700, 4 December.

Don DeYoung (703) 681-9478

NOTE: **This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s).** FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: Please see attached pages

Mr Metrey	01	301-227-1628	12/4/94
Name	**Code**	**Commercial Phone #**	**Date**

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 09
Received: 1157 Hrs; 4 Dec 94
Due: 1700 HRS; 4 Dec 94

1. **"Total facility shutdown is cited as 589 KSF due to mothballed facilities. Please identify these facilities and the amount of space allocated to each."**

Response:

The only facility proposed for moth ball status is the Deep Ocean Machinery and Vehicle Pressure Simulation Facility which occupies 29.4 KSF.

The entry in Line 5 of Table 2-F on page 2-42 should be 598 vice 589. The same transposition error was carried into Note 3 of Attachment 1: Base Loading Data. This will be formally submitted with the appropriate certifications.

2. **The below questions and responses apply:**

a. **"The BSEC statement reads "Close NSWC Det Annapolis, including special area (NIKE Site). Why does the alternative keep the site open when it can be located with the rest of the Ship Materials Engineering Department and when, according to the baseline response, it is clearly feasible to do so?"**

Response:

The baseline scenario (3-20-0198-35) directed the closure of both the Annapolis and Nike sites. This required the relocation of the post-BRAC 91 non-Annapolis functions to the Carderock site, where the Ship Materials Engineering Department is to be centered. The relocation costs, as discussed in Scenario 3-20-0198-35, Section 3, required approximately $1M in MILCON.

As the BRAC 95 Scenario 3-20-0198-35 provided an opportunity for an alternative scenario, the NSWC Carderock Division Command elected to minimize the BRAC related costs by not incurring the costs for relocation of the facilities to the Carderock site.

b. **"If this equipment is to be retained at their present location, justify why this is technically necessary."**

Response:

This equipment is to be retained at their present location, since the relocation costs, as discussed above (question 2.a above) required are approximately $1M in MILCON.

These advanced materials processing capabilities are technically necessary as their loss would have an adverse impact to the Navy: **Thermal Spray for Machinery Element Restoration** - preclude the development and modification of processes, procedures, and materials that contribute to maintenance cost savings and Fleet readiness through the IMA's, SIMA's and naval shipyards, including on-site training and qualification of military personnel; **Polyurethane Processing** -provides a prototyping and producability capability, with highly specialized and patented processes and equipment, unmatched in the private sector; and the interactive, multi-disciplinary scientific and engineering efforts at NSWCCD and the security classification dictate that this effort be conducted to cost-effectively meet Navy's signature requirements for hydrodynamic and machinery systems; and **Reactive Metal Spray Forming** - Elimination of this emerging R&D capability for affordable titanium & other naval alloys for near net shape machinery components, which does not exist in the private sector, would preclude the development of reduced cost of ownership of auxiliary ship systems acquisition and life cycle). Under Project Reliance NSWCCD has been designated as the lead and only service to conduct research & development of Metal Spray Forming Technology.

3. "**What are the estimated additional travel costs/savings between Carderock, White Oak, Philadelphia, the NIKE site (35-A only), NRL, and the JSC that would be incurred in the course of performing all of the related work? Estimate these costs separately for each scenario.**"

Response:

Increased travel costs between sites in the Carderock Division which would result from BRAC 95 Scenario 3-20-0198-35 and Scenario 3-20-0198-35A are expected. For both Scenario 3-20-0198-35 and Scenario 3-20-0198-35A, there is some anticipated additional travel costs. These costs are expected to be less than $400K annually for either scenario.

For Scenario 3-20-0198-35A, if the moth bailed Deep Ocean Vehicle Simulation Facility at the NSWC Annapolis Detachment site is required to be placed in an operational condition, travel costs between the Carderock and Annapolis, and Philadelphia and Annapolis sites will be incurred at a rate proportional to the facility's utilization rate.

BSAT REQUEST FOR CLARIFICATION -- DJD 010

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DID 010 Date sent: 5 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins . Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Please forward a map of the Annapolis site (one similar to that provided for Data Call #5 is sufficient) showing the location of the Deep Ocean Pressure Simulation Facility, Submarine Fluid Dynamics Laboratory, fuel storage and refueling site used by the Naval Academy, and the facilities used to supply water to North Severn Navy housing.

2. Clarify the facilities to be mothballed under each scenario. Faxed response to RFC DID 09 states "the only facility proposed for mothball status is the Deep Ocean Machinery and Vehicle Presure Simulation Facility." Yet, page 1-3 states the Submarine Fluid Dynamics Laboratory would be mothballed. Is it part of the Deep Ocean Facility or colocated with it?

3. Scenario 3-20-0198-35A cites the cost for partial replication of the MFL. Scenario 3-20-0207-42 cites the cost for the partial replication of the MSF. Faxed response to RFC DID 08 quoted an approximate cost of $20 M for fully replicating the two facilities at another site, like Carderock. Does "fully replicate" mean that the total sum moved to Carderock would exceed the proposed scenario combinations of the MSF and MFL at either Annapolis or White Oak?

4. Given that the MFL's estimated relocation cost to White Oak is $5M and the MSF's cost to move to Annapolis is $2M, would it be reasonable to apportion the MFL's move to Carderock at $14M and the MSF's move at $6M, for a total of $20M? This is derived by a simple apportionment of the total cost by an approximate 5:2 ratio between the facilities.

I need this information by 1000, 6 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected pages. FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: Please see attached pages

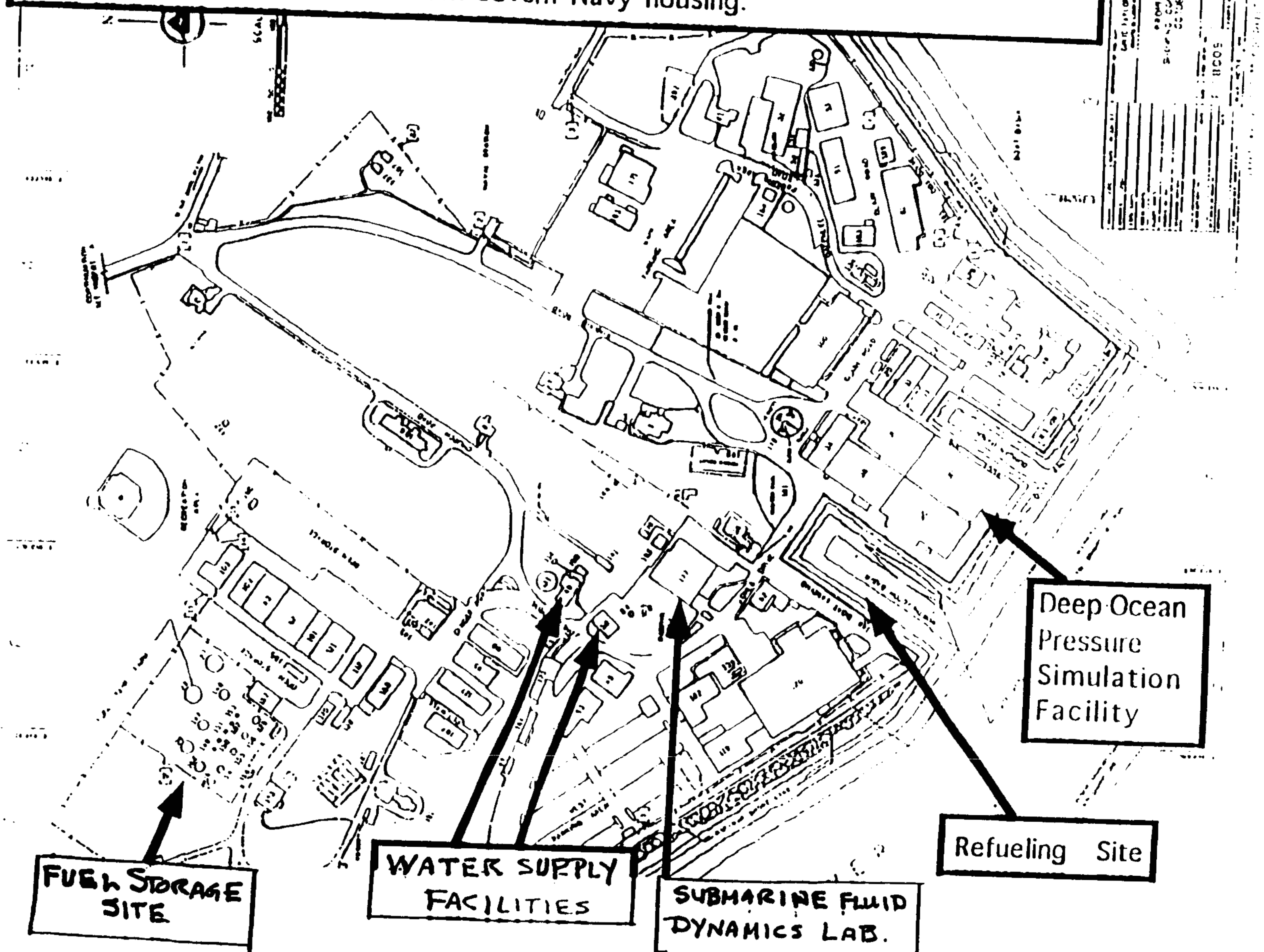
Mr Metrey	C01	301-227-1628	12/6/94
Name	Code	Commercial Phone #	Date

TOTAL P.03

II - 44

(1) Control # DJD 010 NSWC Carderock Division (Annapolis)
Please forward a map of the Annapolis site showing the location of the Deep Ocean Pressure Simulation Facility, Submarine Fluid Dynamics Laboratory, fuel storage and refueling site used by the Naval Academy, and the facilities used to supply water to the North Severn Navy housing.

DJD-010



2. **QUESTION: Clarify the facilities to be mothballed under each scenario. Faxed response to RFC DJD 09 states "the only facility proposed for mothball status is the Deep Ocean Machinery and Vehicle Pressure Simulation Facility." Yet, page 1-3 states the Submarine Fluid Dynamics Laboratory would be mothballed. Is is part of the Deep Ocean Facility or colocated with it?**

Response. The response to RFC-DJD-09 is correct that the only facility proposed for mothball status is the Deep Ocean Machinery and Vehicle Pressure Simulation Facility in both scenarios 3-20-0198-035 and 035A. No reference to mothballing the Submarine Fluid Dynamics Laboratory can be found in 3-20-0198-035. There was reference to this in an earlier Scenario 3-20-0198-035A submission (dated 30 Nov 94) on page 1-3. However, this was removed in the certified re-submittal of 3-20-0198-035A responding to Control Number DJD-06, which was submitted on 3 December via the chain of command. The Submarine Fluid Dynamics Laboratory is not part of the Deep Ocean Facility and is not colocated with it.

A copy of page 3 of the latest submittal of 3-20-0198-035A is attached with the relevant statement underlined for reference.

3. **QUESTION: Scenario 3-20-0198-35A cites the cost for partial replication of the MFL. Scenario 3-20-0207-42 cites the cost for the partial replication of the MSF. Faxed response to RFC DJD 08 quoted an approximate cost of $20M for fully replicating the two facilities at another site, like Carderock. Does "fully replicate" mean that the total sum moved to Carderock would exceed the proposed scenario combinations of the MSF and MFL at either Annapolis or White Oak.**

Response. No. The sum of the technical capabilities moved to Carderock do not exceed the proposed scenario combinations of the MSF and MFL at either Annapolis or White Oak cited in Scenario 3-20-0207-42 and Scenario 3-20-0198-35A, respectively. The Carderock Site presently has no facilities/capabilities that support electromagnetic signature reduction and silencing Research, Development, Test and Evaluation of steel hulled ships, minesweepers, and minesweeper machinery. The present White Oak Facility is located in a magnetically quiet area and includes means to control the magnetic field environment very accurately and conduct sensitive measurements of scaled ship models. In Scenario 3-20-0198-35A, which closes Annapolis, the augmentation of the existing White Oak Facility to handle the operation of actual minesweeper machinery (engines, generators, etc.) and to handle large submarine magnetic models is proposed at a cost of $5M. This replicates the Annapolis capabilities not now at White Oak.

The present Annapolis facility is in a magnetically quiet area and includes means to control the magnetic field environment very accurately to conduct sensitive measurements of the signature of actual operating minesweeper equipment (including services, fuel, exhaust, loads, etc.), and to measure the signature of large scaled submarine magnetic models. In Scenario 3-20-0207-42, the White Oak capabilities cited above are replicated by augmenting the Annapolis facility at a cost of $2M.

Finally, if the capabilities of both the White Oak Magnetic Silencing Facility and the Annapolis Magnetic Fields Laboratory must be fully replicated from scratch at a third site such as Carderock, as cited in RFC-DJD-08, the total estimated cost of approximately $20M is less than the cost of totally replicating both facilities independently due to similarities in the basic capabilities of the two facilities regarding magnetic field control and measurement.

In summary, in all three cases, the resulting facilities at the receiving site would have the same capability and would meet the Navy's total critical electromagnetic RDT&E requirements.

4. **QUESTION: Given the MFL's estimated relocation cost to White Oak is $5M and the MSF's cost to move to Annapolis is $2M, would it be reasonable to apportion the MFL's move to Carderock at $14M and the MSF's move at $6M, for a total of $20M? This is derived by a simple apportionment of the total cost by an approximate 5:2 ratio between the facilities.**

Response. No. In attempting to apportion costs for replication of the White Oak MSF and the Annapolis MFL in a combined facility at Carderock, the commonality of the two should be considered. In order to be consistent with the various data calls, including the Annapolis Site Data Call 5, the total estimated replication cost of $20M is distributed per the replication of the Annapolis MFL for $14.5M with augmentation of $5.5M to include replication of the White Oak MSF capabilities.

BSAT REQUEST FOR CLARIFICATION -- DJD 011

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Date sent: 5 Dec 94

Control # DBD 011
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. The faxed response to RFC DBD 011 shows 106 billets moving associated with the seven critical facilities. Scenario 035A cites 281 billets (not including the JSC personnel) moving with the 7 facilities. Justify the additional 175 billets not associated with the 7 critical facilities by technical function. Explain why it is necessary to the Navy that the 175 billets relocate. The BSEC is ensuring that only those technical personnel necessary to conduct critical government functions are relocated -- therefore some further personnel eliminations may be in order for both proposed scenarios.
2. How many personnel are required to operate the potable water facilities?
3. With the exception of the manned vehicle testing last conducted in 1983, what types of testing have been conducted over the last five years that could not have been conducted elsewhere?
4. The Officer billet relocating to Carderock. Evidently the billet is important, but is it necessary? This billet is sure to be evaluated by the BSEC. As advised above, only necessary functions are to be relocated. Please consider this billet once again in that context. If the decision is that it is necessary, provide justification if different than the one already provided.
I need this information by 1600, 6 December.

Don DeYoung (703) 681-0470

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: Please see attached sheets

Mr Metrey	401	301-227-1628	12/5/94
Name	Code	Commercial Phone #	Date

1. QUESTION: The faxed response to RFC-DJD-08 shows 106 billets moving associated with the seven critical facilities. Scenario 035A cites 281 billets (not including the JSC personnel) moving with the 7 facilities. Justify the additional 175 billets not associated with the 7 critical facilities by technical function. Explain why it is necessary to the Navy that the 175 billets relocate. The BSEC is ensuring that only those technical personnel necessary to conduct critical government functions are relocated -- therefore some further personnel eliminations may be in order for both proposed scenarios.

Response. In the Scenario -35 response, the Carderock Division, NSWC had interpreted that as the BSAT Scenario provided for the consolidation of the Machinery functions at the Philadelphia site, a detailed explanation of the realigned functions was not required or allowed.

However, the Carderock Division took the opportunity in Scenario -35A, to describe the full capabilities moving to Philadelphia not just those related to the 6 facilities. (The Magnetics capability moving to White Oak was also fully described making a total of 7 facilities.)

The table below shows how the personnel to be relocated to Philadelphia are allocated to the technical capabilities.

Technical Capability	Total Personnel Relocating (Note 1.)	Personnel Performing Inherently Governmental Functions	Personnel Related to the 6 Critical Facilities to be Relocated to Philadelphia
Advanced Propulsion Machinery R&D	25	16	9
Advanced Auxiliary Machinery (including Pulsed Power) R&D	101	76	25
Advanced Electric Machinery R&D	82	59	23
Machinery Acoustic Silencing R&D	53	21	32
Sea Survival/Life-Saving Systems	Note 2.	Note 2.	Note 2.
Totals	261	172 (Note 3.)	89

Note 1. Total personnel listed in Scenario -35A Section 2-B(1) justifications are the actual FY93 personnel related to each technical capability above and as a result are slightly different from the numbers in this table.

Note 2. This function is transferred to Philadelphia without any personnel.

Note 3. In Scenario -35, the 175 personnel relocated included 172 to Philadelphia and 3 to Carderock. An additional 16 personnel were moved to White Oak.

Scenario -35 proposes the relocation to Philadelphia of the 172 personnel performing the inherently governmental functions related to propulsion, auxiliary and electrical machinery, and machinery silencing. These functions are both critical to the development of advanced technology for future ships and submarines and critical for the execution of Navy machinery programs.

Personnel Performing Inherently Governmental Functions include positions, such as program management, awarding, directing and monitoring development contracts, generating performance or cost assessments, or recommending design improvements or corrective actions which can be performed without requiring the operation of the facilities now located at Annapolis.

The expertise embodied by these personnel does not exist elsewhere in government or industry.

2. **QUESTION: How many personnel are required to operate the potable water facilities?**

Response. It takes 5 personnel to operate the water plant. There are 4 water plant operators and 1 supervisor. The operators stand an 8 hour watch and rotate through shifts. The supervisor handles supervision, record keeping, and is available to allow for leave or emergent requirements for an additional person.

3. **QUESTION: With the exception of the manned vehicle testing last conducted in 1983, what types of testing have been conducted over the last five years that could not have been conducted elsewhere?**

Response. The following types of testing that could not have been conducted elsewhere and have been performed over the last five years are as follows:

Vehicles

Qualifying and evaluating vehicles such as Cable Controlled Underwater Recovery Vehicle (CURV), ORION, etc. require high pressure (10,000 - 12,000 psi), size (10 ft diameter, 27 ft length) and horizontal orientation.

Deep Ocean Machinery Systems

Qualifying and evaluating deep ocean machinery system such as the SSN-21 Secondary Propulsion Unit, Deep Submergence Electric Power Distribution System, etc. require a horizontal orientation, heat removal capability and size (10 ft diameter, 27 ft length).

Cable Systems

Evaluation of cable designs such as the Advanced Tethered Vehicle Cable and an assortment of fiber optic cables require high pressure (12.000 psi). size (10 ft diameter. >10 ft length) and horizontal orientation.

Materials

Evaluation of composite materials such as ceramic and titanium pressure vessels and ceramic compaction process require high pressure (10.000 - 12.000 psi) and size (10 ft diameter. 27 ft length).

Special Testing

Evaluation of sonar aperture and hydrophone array panels require low noise - high pressure environment. Due to its unique fabrication. the tank is inherently acoustically quiet.

The following table is a log of tests performed over the past five years that could not be performed elsewhere.

TESTS REQUIRING SPECIAL CAPABILITIES OF THE DEEP OCEAN PRESSURE SIMULATION FACILITY

(10 ft diameter. 27 ft length/Working Pressure 12.000 psi/Horizontal Orientation)

Note: ***More than 50-percent of the tests conducted in the facility are performed either directly for Navy sponsors or for contractors for the benefit of Navy programs.***

DATE	TEST	SPONSOR
1-89	Ceramic compaction (requires size and pressure of the facility)	Coors Ceramics
9-89	Orion cable (requires size and pressure of the facility)	Oceaneering
4-90	CURV (requires size and pressure of the facility)	Oceaneering
6-90 thru 7-90	Noise test (test required a quiet test vessel)	Carderock
11-90	ATV cable (requires size and pressure of the facility)	NOSC
11-90	Rubber panels (size requirement and required quiet tank)	Carderock

DATE	TEST	SPONSOR
10-91	Fiber optic cable (requires size and pressure of the facility)	AT&T Bell Labs
10-91	AT&T SPAWAR (requires size and pressure of the facility)	Navy
11-92	Fiber optic cable (requires size and pressure of the facility)	AT&T Bell Labs
11-92	Westinghouse ceramic (requires orientation, size and pressure of the facility)	Westinghouse
11-92	SSN-21 Secondary Propulsion Unit (requires size and orientation of the facility)	Westinghouse
1-93	Fiber optic cable (requires size and pressure of the facility)	Simplex
4-93	NCEL plow test (requires orientation of the facility)	NCEL
4-93	SSN-21 Secondary Propulsion Unit (requires orientation of the facility)	Westinghouse
5-93	Sea Cliff electrical distribution system (manned submersible components evaluation and qualification)	Lockheed
6-93	Fiber optic cable (requires size and pressure of the facility)	AT&T Bell Labs
8-93	ISMS system (requires orientation of the facility)	Oceaneering
9-93	AT&T SPAWAR (requires pressure of the facility)	AT&T Bell Labs
9-93	ISMS System (requires orieNTATION of the facility)	Oceaneering
10-93	Ceramic vessel tech (requires size and pressure of the facility)	Westinghouse
1-94	Fiber optic cable (requires size and pressure of the facility)	Rochester Cable
5-94	Fiber optic cable (requires size and pressure of the facility)	Rochester Cable

DATE	TEST	SPONSOR
6-94	Fiber optic cable (requires size and pressure of the facility)	AT&T Bell Labs
7-94	Holding tank (requires pressure of the facility)	Westinghouse
12-94	Preparation for Sea Cliff manipulator ((requires size of the facility)...manned submersible components)	Navy/Battelle

4. **QUESTION: The Officer billet relocating to Carderock. Evidently the billet is important, but is it <u>necessary</u>? This billet is sure to be evaluated by the BSEC. As advised above, only necessary functions are to be relocated. Please consider the billet once again in that context. If the decision is that it is necessary, provide justification that is different than the one already provided.**

<u>Response.</u> The relocation of the officer billet to Carderock is considered very important by the Carderock Division, but it is not "necessary".

BSAT REQUEST FOR CLARIFICATION -- DJD 012

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 012
Activity: NSWC Carderock Div (Annapolis)

Date sent: 5 Dec 94

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0341

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

RE: NSWC-Carderock fax dated 30 Nov 94

1. The fax identified personnel moved and eliminated by function for the baseline and alternative scenarios. The totals shown for "start, moved, and eliminated" do not match the totals presented on Table 2-D of the data calls for both scenarios. Please explain and resolve the difference.

I need this information by 1000, 6 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: Please see attached sheets

Mc Metrey — Name
C101 — Code
301-227-1628 — Commercial Phone #
12/6/94 — Date

1. **QUESTION:** ***RE: NSWC Carderock fax dated 30 November 1994:*** **The fax identified personnel moved and eliminated by function for the baseline and alternative scenarios. The totals shown for "start, moved, and eliminated" do not match the totals presented on Table 2-D of the data calls for both scenarios. Please explain and resolve the difference.**

Response. The tables submitted with NSWC-Carderock fax dated 30 November 1994 were incorrect in that they only indicated NSWC Annapolis personnel (excluding Joint Spectrum Center personnel) and improperly assumed that BRAC-91 actions had been completed. Corrected tables are attached.

NSWC ANNAPOLIS---SCENARIO 35
UIC 61533

CIVILIAN STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	1	0	0	0	1	0
Comptroller	2	-2	0	0	0	0
Admin	7	-6	0	0	1	0
Human Resource	4	-4	0	0	0	0
Supply Management	20	-18	0	0	2	0
Computational Support	3	-3	0	0	0	0
Info Sys/Communications	1	-1	0	0	0	0
Safety/OSH/Environ	4	-3	0	0	1	0
Physical Security	9	0	0	0	9	0
Public Works	105	-63	0	0	42	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other	0	0	0	0	0	0
Technical Operations	569	-194	-13	190	172	0
Total Annapolis	725	-294	-13	190	228	0
Joint Spectrum Center	115	0	0	115	0	0
Totals	840	-294	-13	305	228	0

JJD 012

NSWC ANNAPOLIS---SCENARIO35
UIC 61533

OFFICER STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	1	0	0	0	1	0
Comptroller	0	0	0	0	0	0
Admin	0	0	0	0	0	0
Human Resource	0	0	0	0	0	0
Supply Management	0	0	0	0	0	0
Computational Support	0	0	0	0	0	0
Info Svs/Communications	0	0	0	0	0	0
Safety/OSH/Environ	0	0	0	0	0	0
Physical Security	0	0	0	0	0	0
Public Works	0	0	0	0	0	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other						0
Technical Operations	1	0	0	1	0	0
Total Annapolis	2	0	0	1	1	0
Joint Spectrum Center	11	0	0	11	0	0
Totals	13	0	0	12	1	0

DJD 012

3

NSWC ANNAPOLIS---SCENARIO -35
UIC 61533

ENLISTED STAFF

	Start Begin FY96	Prior BRAC impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	0	0	0	0	0	0
Comptroller	0	0	0	0	0	0
Admin	0	0	0	0	0	0
Human Resource	0	0	0	0	0	0
Supply Management	0	0	0	0	0	0
Computational Support	0	0	0	0	0	0
Info Sys/Communications	0	0	0	0	0	0
Safety/OSH/Environ	0	0	0	0	0	0
Physical Security	0	0	0	0	0	0
Public Works	0	0	0	0	0	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other						0
Technical Operations	0	0	0	0	0	0
Total Annapolis	0	0	0	0	0	0
Joint Spectrum Center	8	0	0	8	0	0
Totals	8	0	0	8	0	0

DJD 012

4

NSWC ANNAPOLIS---SCENARIO -35
UIC 61533

TOTAL STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	2	0	0	0	2	0
Comptroller	2	-2	0	0	0	0
Admin	7	-6	0	0	1	0
Human Resource	4	-4	0	0	0	0
Supply Management	20	-18	0	0	2	0
Computational Support	3	-3	0	0	0	0
Info Sys/Communications	1	-1	0	0	0	0
Safety/OSH/Environ	4	-3	0	0	1	0
Physical Security	9	0	0	0	9	0
Public Works	105	-63	0	0	42	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other	0	0	0	0	0	0
Technical Operations	570	-194	-13	191	172	0
Total Annapolis	727	-294	-13	191	229	0
Joint Spectrum Center	134	0	0	134	0	0
Totals	861	-294	-13	325	229	0

DJD 012

5

NSWC ANNAPOLIS---SCENARIO -35A
UIC 61533

CIVILIAN STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	1	0	0	0	1	0
Comptroller	2	-2	0	0	0	0
Admin	7	-6	0	0	1	0
Human Resource	4	-4	0	0	0	0
Supply Management	20	-18	0	0	2	0
Computational Support	3	-3	0	0	0	0
Info Sys/Communications	1	-1	0	0	0	0
Safety/OSH/Environ	4	-3	0	0	1	0
Physical Security	9	0	0	0	9	0
Public Works	105	-63	0	0	42	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other	0	0	0	0	0	0
Technical Operations	569	-194	-13	280	82	0
Total Annapolis	725	-294	-13	280	138	0
Joint Spectrum Center	115	0	0	115	0	0
Totals	840	-294	-13	395	138	0

DJD 012

6

NSWC ANNAPOLIS---SCENARIO -35A
UIC 61533

OFFICER STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	1	0	0	0	1	0
Comptroller	0	0	0	0	0	0
Admin	0	0	0	0	0	0
Human Resource	0	0	0	0	0	0
Supply Management	0	0	0	0	0	0
Computational Support	0	0	0	0	0	0
Info Sys/Communications	0	0	0	0	0	0
Safety/OSH/Environ	0	0	0	0	0	0
Physical Security	0	0	0	0	0	0
Public Works	0	0	0	0	0	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other						0
Technical Operations	1	0	0	1	0	0
Total Annapolis	2	0	0	1	1	0
Joint Spectrum Center	11	0	0	11	0	0
Totals	13	0	0	12	1	0

DJD 012

NSWC ANNAPOLIS—SCENARIO -35A
UIC 61533

ENLISTED STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	0	0	0	0	0	0
Comptroller	0	0	0	0	0	0
Admin	0	0	0	0	0	0
Human Resource	0	0	0	0	0	0
Supply Management	0	0	0	0	0	0
Computational Support	0	0	0	0	0	0
Info Sys/Communications	0	0	0	0	0	0
Safety/OSH/Environ	0	0	0	0	0	0
Physical Security	0	0	0	0	0	0
Public Works	0	0	0	0	0	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other						0
Technical Operations	0	0	0	0	0	0
Total Annapolis	0	0	0	0	0	0
Joint Spectrum Center	8	0	0	8	0	0
Totals	8	0	0	8	0	0

DJD 012

NSWC ANNAPOLIS---SCENARIO -35A
UIC 61533

TOTAL STAFF

	Start Begin FY96	Prior BRAC Impacts	Force Struct Change	Moved	Eliminated	End FY2001
Command	2	0	0	0	2	0
Comptroller	2	-2	0	0	0	0
Admin	7	-6	0	0	1	0
Human Resource	4	-4	0	0	0	0
Supply Management	20	-18	0	0	2	0
Computational Support	3	-3	0	0	0	0
Info Sys/Communications	1	-1	0	0	0	0
Safety/OSH/Environ	4	-3	0	0	1	0
Physical Security	9	0	0	0	9	0
Public Works	105	-63	0	0	42	0
Fire Protect	0	0	0	0	0	0
Med/Dental	0	0	0	0	0	0
Air/Waterfront Ops	0	0	0	0	0	0
Other	0	0	0	0	0	0
Technical Operations	**570**	**-194**	**-13**	**281**	**82**	**0**
Total Annapolis	**727**	**-294**	**-13**	**281**	**139**	**0**
Joint Spectrum Center	**134**	**0**	**0**	**134**	**0**	**0**
Totals	**861**	**-294**	**-13**	**415**	**139**	**0**

DJD 012

11-63A

BSAT REQUEST FOR CLARIFICATION -- DJD 013

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DBD 013
Activity: NSWC Carderock Div (Annapolis)
ATTN: Jim Logan or Judith Atkins Fax: 703-602-3341

Date sent: 6 Dec 94

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035A:

1. Although I understand that some simplifying assumptions were necessary, contract termination costs that are *exactly* the same for two fundamentally different scenarios is not reasonable, especially when one retains so much more of the technical work. On the other hand, it is reasonable to assume that because the alternative proposes transferring R&D functions to Philadelphia, Carderock, White Oak, and NRL, any contracts performed in those areas are likely to be modified to change the service site or shipping destination. In lieu of determining on a contract-by-contract basis how much of the $16.9 M in claimed termination costs is inappropriate to the alternative, provide the percentage of Annapolis' contracting load for each technical function proposed for relocation. Given the assumption that termination costs are spread evenly among all technical functions -- relocated and cancelled -- a reasonable answer can be derived.

2. If one is available, I'm also open to a better idea that arrives at a satisfactory solution. I believe that its better to arrive at a satisfactory solution now rather than have the BSEC make one when there will be even less time to perform the necessary work to arrive at one.

I need this information by 1200, 7 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for verification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

RE METREY	01	301 227 1628	7 DEC94
Name	Code	Commercial Phone #	Date

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 013
Received: 0808 Hrs; 7 Dec 94
Due: 1200 HRS; 7 Dec 94

1. "Although I understand that some amplifying assumptions were necessary, contract termination costs that are exactly the same for two fundamentally different scenarios is not reasonable, especially when one retains so much more of the technical work. On the other hand, it is reasonable to assume that because the alternative proposes transferring R&D functions to Philadelphia, Carderock, White Oak, and NRL, any contracts performed in these areas are likely to be modified to change the service site or shipping destination. In lieu of determining on a contract-by-contract basis how much of the $16.9M in claimed termination costs is inappropriate to the alternative, provide a percentage of Annapolis contracting load for each technical function proposed for relocation. Given the assumption that termination costs are spread evenly among all technical functions -- retained and cancelled -- a reasonable answer can be derived."

Response:

Please see response to question #2

2. **"If one is available, I also open to a better idea that arrives at a satisfactory solution. I believe it is better to arrive at a satisfactory solution now rather than have the BSEC mandate one when there will be even less time to perform the necessary work to arrive at one."**

Response:

There are thirteen major facilities that have contract costs at the Post-BRAC 91 NSWC Annapolis Detachment. Six of the thirteen major facilities are not proposed to be moved to be moved under the alternative Scenario 3-20-0198-35A. Assuming a straight line apportionment of the contract termination costs across all the major facilities, a factor of 0.4615 (i.e. 6/13ths) may be used to determine the contract termination costs

FY	Scenario "035"	Scenario "035A"
1996	$11,200K	$ 5,169K
1997	$ 4,700K	$ 2,169K
1998	$ 1,000K	$ 462K

BSAT REQUEST FOR CLARIFICATION -- DJD 014

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DID 014 Date sent: 6 Dec 94
Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035A:

1. How else might the Navy's need to conduct high pressure acoustic measurements of submarine ballasting and related piping systems be satisfied if the Annapolis capability is closed?
2. How else might the Navy's need to identify, assess, specify, validate, and direct development of technologies in the areas of cryogenics, superconductivity, and power semiconductors be satisfied if the Annapolis capability is closed?
3. How else might the Navy's need for cooling system developments permitting non-CFC refrigerants be satisfied if the Annapolis capability is closed? Data Call #5 states that "these facilities are only duplicated (somewhat) at the largest of the major air conditioning manufacturer's plants, although facilities are tailored to the unique Naval application of water heat rejection over a wide range of water temperatures." Is it possible to outsource the necessary development work to the A/C manufacturers or to some other contractor using the manufacturer's facilities?

I need this information by 1200, 7 December.

Dan DeYoung Dan DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R. E. METREY	01	301-227-1628	7 DEC 94
Name	Code	Commercial Phone #	Date

1. **QUESTION: How else might the Navy's need to conduct high pressure acoustic measurements of submarine ballasting and related piping systems be satisfied if the Annapolis capability is closed?**

Response: There is no existing capability in government or industry which can perform this capability if Annapolis is closed.

The only alternative is to replicate this facility and the associated skilled personnel elsewhere to meet the Navy's need to conduct high pressure acoustic measurements of submarine ballasting and related piping systems. Annapolis is the only known facility with the capability for full scale evaluations at shipboard operational conditions of air, water, and hydraulic systems and components without contaminating acoustic interference from supporting systems such as pumps and compressors. Steady state and transient noise signatures are measured concurrently with mechanical conditions and operations. System background noise levels and analysis equipment are designed for the evaluation of components for the world's quietest ships. The facility is capable of establishing deballasting parameters and certification of SUBSAFE components which are critical for submarine safety and in support of design agents and shipbuilders.

The estimated cost of replacing this facility at a different site is $15.0 M. Relocation costs are estimated to be $8.64M if accomplished by land or $1.64M if by water, not including the 5 key personnel. (The large high pressure tank can only be moved by barge. Replacement cost of the tank is $7M.)

2. **QUESTION: How else might the Navy's need to identify, assess, validate, and direct development of technologies in the areas of cryogenics, superconductivity, and power semiconductors be satisfied if the Annapolis capability is closed?**

Response: **Power semi-conductor R&D** capability exists in both private industry and universities. The Annapolis contributions in this area are keyed to those specific issues which are unique to military requirements, such as establishing and validating derating factors and stress limits, guiding and coordinating contracted R&D with industry and academia, assuring coordination with other government agencies, and translating system requirements into R&D goals. This Annapolis capability does not exist elsewhere and can not be contracted since it is an inherently governmental function.

In order to retain the power semiconductor capability, it should be located with the Navy group doing Electrical Power Systems R&D which is relocated to Philadelphia in Scenario 035A; since it is critical to have strong, real-time interaction between the semiconductor and system technologies. In order to maintain the capability, transfer the equipment required to complete this capability to Philadelphia. Estimated one time unique cost to move this facility which include specialized power semiconductor characterization equipment and laboratory instrumentation and equipment is approximately $250K.

Although basic research capability exists at some government laboratories in **superconductivity and cryogenics**, and design and manufacturing capability exist in industry, Annapolis is the only organization which has the combination of experienced personnel and facilities required to address and objectively evaluate technology for power applications of these technologies. Maintaining this expertise is essential for the specification and evaluation of superconducting electric machinery for Navy ships and submarines of the future.

The expertise in the technology areas of cryogenics and superconductivity for power applications in the Navy is exclusive to the Annapolis Detachment. There are 10 key engineers and scientist with over 150 years of total experience in this area associated with facility intensive work. It would be necessary to relocate these personnel with facilities to retain this capability, preferably to Philadelphia to retain the synergism with related machinery and electrical capabilities. The relocated individuals require key laboratory facilities to support their efforts which are not available in the industrial or university base. These unique facilities which have been designed, built, and utilized for specific Navy needs include such things as shock and vibration apparatus for superconducting magnets, magnet stability energy-to-quench measuring devices and developmental cryogenic refrigeration systems. One time unique cost to relocate facilities is $4M excluding site preparation.

3. **QUESTION: How else might the Navy's need for cooling system developments permitting non-CFC refrigerants be satisfied if the Annapolis facility is closed? Data Call #5 states that "these facilities are only duplicated (somewhat) at the largest of the major air conditioning manufacturer's plants, although facilities are tailored to the unique Naval application of water heat rejection over a wide range of water temperatures." Is it possible to outsource the necessary development work to the A/C manufacturers or to some other contractor using the manufacturer's facilities?**

Response: There is no way to accommodate the Navy's cooling system development needs if NSWC Annapolis is closed or if the program is delayed as a result of relocation of this facility to another site. An explanation is provided below.

Shipboard combat systems are cooled by vapor compression air conditioning plants. Ships cannot function without this vital cooling. The bulk of the fleet uses CFC-114 refrigerant in these cooling systems. The Navy is the major user of CFC-114 in this application and has approximately 850 large units in the fleet ranging in size from 125-363 tons of cooling. The Navy is the only entity searching for a suitable, environmentally acceptable replacement for CFC-114.

In 1987, concerns about the depletion of the earth's protective ozone layer led to an international agreement, the Montreal Protocol, which began the process of controlling the production of CFCs. Continuing depletion of the ozone layer led to President Bush's 1992 decision to order a complete ban on CFC production effective January 1,1996. This accelerated phase out resulted in the Navy accelerating the development of facilities and staff capabilities at NSWC Annapolis to solve this problem.

The Navy has established a limited stockpile of CFCs to satisfy the fleet needs until all fleet units are converted to CFC-free refrigerants. The size of the CFC-114 stockpile was based on conversion of fleet units beginning in FY 98 and continuing through FY 08. The conversion schedule was predicated on successful and rapid prosecution of the R&D program at NSWC Annapolis.

Any delay in the prosecution of the R&D program will result in a conversion program delay which in turn will prematurely deplete the stockpile. Defense Logistics Agency (DLA), the manager of the stockpile, has advised the Navy that further procurements of CFC-114 are unlikely since the CFC manufacturers have already committed their CY 95 final production allocation. Reinstituting CFC production requires agreement by the parties to the Montreal Protocol.

York International is the Navy's sole supplier of CFC-114 air conditioning plants and is the only supplier with the necessary skilled staff and limited facilities to continue this work if NSWC Annapolis were to close. However, York is currently aggressively pursuing their commercial CFC replacement work, which does not include CFC-114, (nationwide there are 80,000 air conditioning plants that must be converted or replaced) and has limited personnel and facilities available for other pursuits. York International's Marine group is currently performing on six large NSWC Annapolis contracts for the development of new CFC-free air conditioning and refrigeration plants for future ship construction programs - DDG 51 IIa, LPD 17, CVN 76 and NSSN. These contract efforts have consumed York's current staff and their new hires.

The reassignment of all of the CFC elimination work to York will require the expansion and modification of York's facilities and the movement of the fleet hardware currently at NSWC Annapolis. The cost of facility replication and equipment movement alone is estimated at $11.2M. The time to replicate facilities, the loss of the skilled experienced staff at Annapolis, the acquisition and training of additional staff at York will result in significant program disruption. The resultant minimum two year delay in the program will require an additional 400,000 lbs of CFC-114 for the stockpile at a cost of $4.8M as a minimum. As stated above, it is unlikely that this additional quantity can be procured.

Outsourcing the work to another contractor using the York facilities is extremely unlikely and the program disruption and consequences described above could be even more severe.

BSAT REQUEST FOR CLARIFICATION -- DJD 015

ATTACHMENT II

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD015
Activity: NSWC Carderock Div (Annapolis)

Date sent: 6 Dec 94

ATTN: Jim Logan or Judith Atkins Fax: 703-602-6341

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Estimate the cost of relocating the Deep Ocean Pressure Simulation Facility at NSWC Carderock. Also, estimate the cost of bringing the facility out of mothball status for a single test.

2. Estimate the annual cost of maintaining the Submarine Fluid Dynamics Laboratory in a mothball status. Estimate the cost of bringing the facility out of mothball status for a single test.

I need this information by 1200, 7 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: SEE ATTACHED SHEET

Name	Code	Commercial Phone #	Date
R. E. METREY	01	301-227-1628	7 DEC94

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A

Reference: Control # DJD 015

Received: 08:55EST 7 Dec 94

Due: 12:00EST 7 Dec 94

1. The below questions apply:

a. **"Estimate the cost of relocating the Deep Ocean Pressure Simulation Facility at NSWC Carderock."**

Response:

The Deep Ocean Pressure Simulation Facility can only be moved by barge. It is 27 ft long by 10 ft inside diameter and weighs approximately 850 tons. As a consequence, it cannot be relocated to the Carderock Site. Barges can not navigate up the Potomac River as a far as the Carderock site.

As it was originally barged from the Philadelphia region, it could be moved to the Philadelphia site. The removal of the tank from the Annapolis site would require the acquisition of a special barge or dredging near the dock area, due to draft limitations, as well as a mechanism to move the mass of the tank onto the barge. Adequate industrial facilities exist at the Philadelphia site for removal of the tank and its subsequent handling to final placement. In addition, it should be noted, that the movement of the pressure vessel in Philadelphia would require a location near the docks. Movement of the vessel over standard road construction is impractical. A cost estimate for this operation is not readily available.

b. **"Also estimate the cost of bringing the facility out of mothball status for a single test."**

<u>Response</u>:

The cost of bringing the Deep Ocean Pressure Simulation Facility out of a mothball status for a test is estimated to be $50K (4 personnel @ $0.5K/man day for 20 days plus $10K for a NAVFAC certification test).

This estimate is based upon the assumptions that the facility has had minimal deterioration during the moth ball period. In addition, it is assumed there is resident engineering knowledge on the operation and certification elements of the facility (at least 2 persons). If such qualified personnel are not available, then the time period would be significantly longer.

2. The below questions apply:

a. **"Estimate the annual cost of maintaining the Submarine Fluid Dynamics Laboratory in a mothball status."**

Response:

The cost of placing the Class 2 real property housing the Submarine Fluid Dynamics Laboratory in mothball status is estimated at a one time cost of $3.2K and an annual cost of $31.0K. These numbers are based on a pro-rata share of the P-164 costs of placing the buildings that house the facilities in a "Reserve Status" (i.e. between "Abandonment' and "Ready Standby" in the P-164 document).

The cost of placing the Class 3/4 equipment within the Submarine Fluid Dynamics Laboratory in mothball status is estimated at a one-time unique cost of $40K. This cost is in-lieu of a detailed engineering cost estimated.

b. **Estimate the cost of bringing the facility out of mothball status for a single test."**

Response:

Assuming the high pressure vessel can be recertified by the Naval Facilities Command, the cost of bringing the facility out of mothball status will be dependent on the amount of deterioration which occurs in the of support systems (air flasks, computers, special piping and valves, etc.) contained in the facility. It is expected that some deterioration will occur.

Based upon our best engineering judgement, it is estimated that the cost of bringing the facility out of mothball status for a single test will be approximately one-tenth of the replacement cost of the facility's support systems per year the facility is mothballed.

Support Systems	1/10-Replacement Cost
Air storage flasks	$ 150 K
Air compressors	$ 80 K
Data acquisition system	$ 100 K
Total	$ 330 K

The magnitude of the deterioration will vary with the amount of time the system has been in a "mothball" status and hence the cost to bring the facility to operational status is expected to be $ 330 K for each year the facility has mothballed.

BSAT REQUEST FOR CLARIFICATION -- DJD 016

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Date sent: 7 Dec 94

Control # DID016
Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development: Data Call # 3-20-0198-035 and 035A:

1. Estimate the cost of relocating the Submarine Fluid Dynamics Laboratory at NSWC Carderock.

2. Estimate the cost of relocating the non-CFC laboratory facilities at either NSWC Carderock or at an industrial site, whichever is most cost-effective.

I need this information by 1400, 7 December.

Dan DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply: Please see attached

R E METREY — Name
01 — Code
301 227 1628 — Commercial Phone #
7 DEC 94 — Date

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 016
Received: 1005 Hrs; 7 Dec 94
Due: 1200 HRS; 7 Dec 94

1. **"Estimate the cost of relocating the Submarine Fluids Dynamic Laboratory at NSWC, Carderock"**

Response:

The Submarine Fluids Dynamic Laboratory consists of special piping, an acoustic isolated large high pressure tank, a bank of high pressure air flasks, several high pressure compressors, and related support equipment.

The high pressure tank is too large (60 ft long by 14 ft diameter) and heavy (70 tons) to move by land. Therefore, to move to the Carderock site, it would have to be replicated at the site. The total cost (excluding the moving costs for approximately 10 tons of equipment and the 5 personnel associated with the operation of this facility) is estimated at $8.64M. This one-time unique costs are composed of the high pressure tank replication of $7M; the labor costs for removal and re-installation of the various support equipments (e.g. high pressure air storage flasks and piping, high pressure compressors, data acquisition equipment, and other subsystems) at a cost of approximately $0.66M; the replacement of the data acquisition system ($0.5M); and the site preparation ($0.48M).

2. **"Estimate the cost of relocating the non-CFC laboratory facilities at either NSWC'Carderock or at an industrial site, whichever is most cost-effective."**

Response:

The cost of relocation of this capability from NSWC Annapolis to NSWC Carderock would include equipment relocation and facility replication (approximately $11.2M), a MILCON for a suitable building and cooling "tower" (approximately 6,000 gallons per minute heat rejection requirement). Though no engineering analyses have been completed, a rough order of magnitude MILCON cost of $10M is provided.

However, it should be noted that a relocation of the non-CFC laboratory would still require an interruption in the program and create delays as discussed in the response to DJD-014 of 6 December 94. As stated earlier, this program disruption would have an adverse impact upon the CFC stockpile and consequent mission capability.

BSAT REQUEST FOR CLARIFICATION -- DJD 017

ATTACHMENT II

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 017

Date sent: 7 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Adkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Explain why the non-CFC work presently conducted at Annapolis can not be performed at a shipyard by Navy ISE personnel with the A/C manufacturers and other necessary contractors.

I need this information by 1400, 7 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

Name	Code	Commercial Phone #	Date
R.E. METREY	01	301 227-1628	7 Dec 94

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 017
Received: 1345 Hrs; 7 Dec 94
Due: 1400 HRS; 7 Dec 94

1. "**Explain why the non-CFC work presently conducted at Annapolis can not be performed at a shipyard by Navy ISE personnel with the A/C manufacturers and other accessory contractors.**"

Response:

The realignment of the non-CFC functions presently conducted at the NSWC Annapolis site would require, as a minimum, the below actions:

a. Replication of the Annapolis non-CFC facilities and relocation of the installed fleet hardware at Annapolis at an estimated cost of $11.2M.

b. A suitable building with high floor loading, overhead crane, 6MW of electrical power and 6000 gallons/minute of cooling water;

c. Recruitment of a R&D capable staff who are experienced in performing inherently governmental acquisition decisions in this technical area; and

d. Appropriate lead times for training, equipment installation, and bringing the facility to an operational condition.

The potential realignment of these functions to an Navy ISE activity would not include any existing shipyards. The present activity for the performance of Machinery related ISE functions is the NSWC Philadelphia Detachment, Carderock Division.

With regards to the performance of this function by a contractor work force, it should be noted that many of the functions are inherently government responsibilities.

Regardless of any realignment of these functions, the reader should be reminded of the earlier responses to DJD-014 & DJD-016 of the adverse impact of any delay in the development and completion of the projects being undertaken by this activity at this time.

BSAT REQUEST FOR CLARIFICATION -- DJD 018

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DID 018 Date sent: 7 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 2-20-0191-035 and 035A:

1. *Attachment 1: Base Loading Data* (see attached) shows one officer billet eliminated under Planned Force Structure Changes. Table 2-D of both scenarios does not show an officer billet being eliminated under Force Structure Changes. Should *Attachment 1* be revised?

I need this information by 1000, 7 December.

Don DeYoung (703) 681-0471

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R.E. METREY	01	301 227 1628	7 DEC 94
Name	Code	Commercial Phone #	Date

Scenario 3-20-0198-035 & 035A
Reference: Control # DJD 018
Received
Due: 1800 HRS 7 DEC 1994

1. **Attachment I: Base Loading Data (see attached) shows one officer billet eliminated under the proposed Force Structure Changes. Table 2-D of both scenarios <u>does not</u> show an officer billet being eliminated under Force Structure Changes. Should Attachment I be revised?**

Response:

Yes. The revised Attachment I sheets are attached.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
ATTACHMENT 1: BASE LOADING DATA

Activity: 61533 NSWC CARDEROCK DIV DET ANNAPOLIS

PART I: MANPOWER DATA - HOST AND TENANTS. The data is provided to assist you in identifying military billets and civilian positions which will either be relocated or eliminated as a result of closure or realignment. Officer (OFF), Enlisted (ENL) and Civilian (CIV) numbers reflect end strength, not on-board counts. The "Planned Force Structure Reduction" column represents the difference between projected "Beginning of FY 1996" and projected "End of FY 2001" end strength. The source of this data is the BUPERS/NAVCOMPT/CMC data bases in support of the FY 1996/1997 OSD Submit. Review this list and make any necessary annotations, including the addition or deletion of lines of data to accurately reflect the host and tenant population. Note that Military Students (STU) must be shown as an Average On Board (AOB) count. If a significant student population is located at the activity, then all students need to be identified in this table. Student data need only be provided for the "End of FY 2001" column of the table. If any numbers are changed, please provide a revised set of totals at the end of the listing.

UIC	NAME	MAJOR CLAIMANT	BEGIN FY 1995 OFF	ENL	CIV	STU	PLANNED FORCE STRUCTURE CHANGES OFF	ENL	CIV	STU	END FY 2001 OFF	ENL	CIV	STU	
61533	NSWC CARDEROCK DIV DET	COMNAVSEASYS	2	0	0	0	~~1~~ 0	0	0	0	~~1~~ 2	0	0	0	NOTE 3 lew 12/7/94
61533	NSWC CARDEROCK	COMNAVSEASYS	0	0	726	0	0	0	-307	0	0	0	410	0	
	TOTALS		2	0	725	0	-1	0	-307 NOTE 2	0	1	0	410	0	

Note 1 The base loading data shown above does not include the Joint Spectrum Center (formerly the Electromagnetic Compatibility Center) a DoD tenant activity at the Annapolis site. (see Annapolis Data Call #1)
Add

UIC	Name	Major Claimant	Begin FY 1995 Off Enl Civ Stu	Planned Force Off Enl Civ Stu	End FY 2001 Off Enl Civ Stu
FGGSN0	Joint Spectrum Center	DoD	11 8 115 0	0 0 0 0	11 8 115 0

Note 2 Force structure change of 307 personnel shown for the Annapolis Detachment consists of a transfer of 294 personnel and related facilities to the NSWC/Carderock site in FY 1996 under BRAC 91, and a workload draw down of 13 personnel at the Annapolis Site between FY 1997 and FY 2001.

Note 3 Delete the Planned Force Structure Reduction of one officer and increase the End FY 2001 Officer end strength to two (2). lew 12/7/94

BSAT REQUEST FOR CLARIFICATION -- DJD 019

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 019

Date sent: 7 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. RE: Data Call 035A; page 3-3. The note mentions losing and gaining site estimates. If I understand it correctly the costs on p.2-35 are the losing site estimates for the movement and reconstruction of the equipment. The $320 K on p.3-3 is the gaining site estimate for "clean out of the site, removal of existing equipment and tie in of utilities to the site" (i.e., preparing the gaining site for receipt of the equipment.). Is this a correct understanding of the costs?

2. RE: Data Call 035A; page 3-4. Is the $380 K for maintenance and repair, fire protection, etc really a cost paid out every year after 1997? or is it a <u>one-time</u> cost paid in 1997 to prepare the building closed previously by BRAC-91? If it is a recurring cost, why is it an annual cost, and why such an expensive one?
I need this information by 1900, 7 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R.E. METREY	01	301 227-1628	7 Dec 94
Name	Code	Commercial Phone #	Date

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 019
Received: 1907 Hrs; 7 Dec 94
Due: 1900 HRS; 7 Dec 94

1. "RE: Data Call 35A; page 3-3. The note mentions losing and gaining site estimates. If I understand it correctly the costs on p.2-35 are the losing site estimates for the movement and reconstruction of the equipment. The $380K on p.3-3 is the gaining site estimate for 'clean out of the site, removal of existing equipment and tie in of utilities to the site.' (i.e. preparing the gaining site for receipt of the equipment.) Is this a correct understanding of the costs?"

Response:

Yes, that is the correct understanding of the costs.

2. The below questions and responses apply "RE:Data Call 035A; page 3-4:

a. **"Is the $380K for maintenance and repair, fire protection, etc really a cost paid out every year after 1997? or is it a one-time cost paid in 1997 to prepare the building closed previously by BRAC-91?"**

Response:

The $380K is the actual annual operating cost of a building closed in BRAC 91 that has the sufficient high bay to install the Machinery Acoustic Silencing Laboratory. That building was selected because of its size and location away from the noise generators, as required by the losing activity.

b. **"If it is a recurring cost, why is it an annual cost, and why such an expensive one?"**

Response:

It, however, also contains office space over the high bay area that would not be required for the transfer. No consideration for use or lay-up of this space (i.e. office space over the high bay area) was made in the original submittal. If this space were laid up, the annual cost could be reduced by approximately $190K. Therefore the overall operating annual cost would be approximately $190K.

BSAT REQUEST FOR CLARIFICATION -- DJD 020

ATTACHMENT II

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 020

Date sent: 7 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035A:

1. RE: Data Call 035A, p.2-42, Table 2-F (line a) One-Time Unique Costs: The 1996 figure of $11,470 K does not add up from the costs itemized on p.2-33. I believe the 1996 one-time costs should add to $11,215 K. The extra $255 K may be the mothball costs which are identified elsewhere. Please resolve the discrepancy.

I need this information by 1200, 8 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service

Reply: Please see attached sheet

Mr Metrey	01	301-227-1628	12/8/94
Name	Code	Commercial Phone #	Date

SCENARIO 3-20-0198-35 AND SCENARIO 3-20-0198-35A
Reference: Control #DJD 020
Received: 0836 Hrs; 8 Dec 94
Due: 1200 HRS; 8 Dec 94

1. **"RE: Data Call 35A; page 2-42, Table 2-F, (line a) One-Time Costs: The 1996 figure of $11,470K does not add up from the costs itemized on p.2-33. I believe the 1996 costs should add up to $11,215K. The extra $255 K may be due to the mothball costs which are identified elsewhere. Please resolve this discrepancy."**

Response:

Yes, you are correct. We have attached the corrected p.2-42 per the reduction of 1996 "One-Time Unique Costs" by $255K. As this cost was placed in the earlier as a "Recurring Cost" (line f, Table 2-F), no change is required on that entry.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
Enclosure (2) - LOSING BASE QUESTIONS

Summarize data shown in response to supporting data questions a. through j. above in the following table. Note that all entries must be shown in ($000).

Table 2-F(1) Dynamic Base Information Summary

Losing Base: NSWC-Annapolis

		1996	1997	1998	1999	2000	2001	Total
a.	One-Time Unique Costs	~~11.470~~ 11215	4.700	1.000	8.919	0	0	25.834
b.	One-Time Unique Svgs	0	0	0	0	0	0	**0**
c.	One-Time Move Costs	6.000	19.650	5.000	0	0	0	**30.650**
d.	Net Mission Costs	0	0	0	0	0	0	**0**
e.	Net Mission Savings	0	0	0	0	0	0	**0**
f.	Misc Recur Costs[2]	255[1]	0	0	0	0	0	**255**
g.	Misc Recur Savings	0	0	0	0	0	0	**0**
h.	Land Sales	0	0	0	0	0	0	**0**
i.	Procurement Cost Avoid	0	0	0	0	0	0	**0**

j. Fac. Shutdown (KSF)	598

Note 1: Miscellaneous Recurring Costs provide for the Deep Ocean Facility moth ball costs.
Note 2: Miscellaneous recurring costs are entered for the first year of occurence per COBRA instructions

Annapolis Site
Scenario 3-20-0198-035A

UIC 61533
6 Dec 1994

2-~~43~~ 42R
12/6/94

Enclosure (2)

BSAT REQUEST FOR CLARIFICATION -- DJD 021

ATTACHMENT II

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 021 Date sent: 8 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. In the non-CFC R&D program, how many of Annapolis' in-house personnel are performing direct development work on the Navy's non-CFC cooling requirements? Do not include contractors.

2. In the non-CFC R&D program, how many of Annapolis' in-house personnel have duties in program management; awarding, directing and monitoring development contracts; generating performance or cost assessments; or recommending design improvements or corrective actions. Do not include contractors.

I need this information by 1800, 8 December.

______________ Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:____

RE METREY	01	301 227 1625	8 DEC 94
Name	Code	Commercial Phone #	Date

Scenario 3-20-0198-035 & -035A
Reference: Control # DJD 021
Received 1630 HRS 8 DEC 1994
Due: 1800 HRS 8 DEC 1994

1. **In the non-CFC R&D program, how many of Annapolis' in-house personnel are performing direct development work on the Navy's non-CFC cooling requirements? Do not include contractors.**

Response:

At the present time a total of 30 Annapolis in-house personnel are working on the non-CFC R&D program. Due to the critical nature of and magnitude of this effort, it is required to raise this total to 40 by FY 1996 and continue this level of manning for the foreseeable future in order to meet the accelerated CFC phase out schedule. This growth will be accomplished through adjustment of personnel assignments and/or if possible, staff augmentation. Members of the in-house staff frequently split their work time between actual development work and work related to contracting or program management. Annapolis in-house personnel will perform 25 work years of direct development work on the Navy's non-CFC cooling requirements in FY95 and 33 work years in FY96 and beyond. In addition, an estimated one man year per year of base operating support (which assures the availability of cooling water and other services) is required.

2. **In the non-CFC R&D program, how many of Annapolis' in-house personnel have duties in program management, directing and monitoring development contracts, generating performance or cost assessments, or recommending design improvements or corrective actions. Do not include contractors.**

Response:

Annapolis in-house personnel will perform 5 work years in the areas of program management, awarding, directing, and monitoring development contracts; generating performance of cost assessments; or recommending design improvements or corrective actions in FY95. In FY96 and beyond this number will grow to 7 work years. Only 3 to 4 personnel are devoted exclusively to these areas, the balance of the work years are split among many personnel attached to this program who use their "hands on" R&D knowledge to ensure that these functions are performed efficiently and to the exacting standards necessary to meet Navy requirements. In addition, an estimated one man year per year of contract specialist support is required.

BSAT REQUEST FOR CLARIFICATION -- DJD 022

ATTACHMENT II

REQUEST CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DID 022

Date sent: 8 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035A:

RE: Previous fax response to RFC DID 011 on 7 Dec 94.

1. The 172 personnel who are proposed to be moved to Philadelphia by the alternative scenario are personnel performing "inherently governmental functions," and the response further defines those functions. Describe how the functions of the 89 personnel, who are related to the 6 critical facilities, differ from those explained for the 172.

2. Further, explain the rationale for why these personnel were not proposed to move under the baseline scenario.

I need this information by 1000, 9 December.

_____________ Don DeYoung (703) 681-3478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

RE METREY	01	301-227-1628	8 DEC 94
Name	Code	Commercial Phone #	Date

BSAT REQUEST FOR CLARIFICATION CONTROL # DJD 022
SCENARIOS DEVELOPMENT DATA CALLS # 3-20-0198-35A

Ref: Response to DJD 011

1. **QUESTION: The 172 personnel who are proposed to be moved to Philadelphia by the alternative scenario are personnel performing "inherently governmental functions," and the response further defines those functions. Describe how the functions of the 89 personnel, who are related to the 6 critical facilities differ from those explained for the 172.**

Response: For clarity in answer the Question #1 of DJD 011. only the functions of the 172 persons performing inherently governmental functions were addressed. Also in the response to DJD 011, the distribution of personnel to be relocated among technical capabilities and functions was described in a table. That table is reproduced here for your convenience.

Technical Capability	Total Personnel Relocating	Personnel Performing Inherently Governmental Functions	Personnel Related to the 6 Critical Facilities to be Relocated to Philadelphia
Advanced Propulsion Machinery R&D	25	16	9
Advanced Auxiliary Machinery (including Pulsed Power) R&D	101	76	25
Advanced Electric Machinery R&D	82	59	23
Machinery Acoustic Silencing R&D	53	21	32
Sea Survival/Life-Saving Systems	0	0.	0
Totals	261	172	89

Personnel Performing Inherently Governmental Functions include positions, such as program management, awarding, directing and monitoring development contracts, generating performance or cost assessments, or recommending design improvements or corrective actions which can be performed without requiring the operation of the facilities now located at Annapolis.

Personnel Related to the 6 Critical Facilities include positions, such as measuring the acoustic performance or thermal efficiency of experimental shipboard machinery, or validating the performance of prototype equipment against specifications, all of which require the Annapolis R&D facilities recommended for relocation to Philadelphia as well as additional inherently governmental functions more closely allied to the facilities. The 6 facilities were considered to be critical because the existing facilities at Philadelphia are not capable of performing the R&D functions relocating.

2. **QUESTION: Further, explain the rationale for why these personnel were not proposed to move under the baseline scenario.**

Response: The additional 89 personnel related to the 6 facilities are relocated to preserve the capability to measure/evaluate performance of developmental machinery systems and components. These personnel were not relocated under Scenario -35 because they were closely related to the facilities and can not perform their functions without those facilities.

The movement of the 89 personnel and 6 critical facilities was not proposed in the Baseline Scenario -035, because our interpretation of the scenario statement was that facilities could not be relocated or duplicated under the scenario's guidelines.

Under the alternative Scenario -35A. positions associated with the facilities to be relocated provide complementary assets in the performance of the inherently governmental functions within Scenario -35. Without these personnel and facilities, the ability of the Navy to perform those inherently governmental functions described in the Baseline Scenario -35 will decrease in effectiveness in the future.

BSAT REQUEST FOR CLARIFICATION -- DJD 023

ATTACHMENT II

REQUE[illegible] R CLARIFICATION
BASE STRU[illegible] ANALYSIS TEAM (BSAT)

Control # DJD 023 Date sent: 9 Dec 94
Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. I understand that the non-CFC R&D program is scheduled to end in 2002. Identify the technical milestones that the program is working toward, as well all policy directives and political requirements that are driving them. For each year of the R&D program through 2002, show the technical staffing levels for contractor personnel.

2. Is all of the program's technical activity confined to Buildings 3B/3C/3E?

3. I understand that the total replacement value for the facilities is approximately $11.2 M. Assuming available funds, how long would it take to replicate (not relocate) these facilities at NSWC-Philadelphia, with concurrent operation of the present facilities?

4. Where did the major equipment/facilities of the non-CFC complex come from?

I need this information by 1700, 9 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R. C. METREY 01 12/9/94

Name Code Commercial Phone # Date

II - 101

DEC 09 '94 12:59PM NSWC P.3/3

Scenario 3-20-0198-035 & -035A
Reference: Control # DJD 023
Received 1300 HRS 9 DEC 1994
Due: 1700 HRS 9 DEC 1994

1. I understand that the non-CFC R&D program is scheduled to end in 2002. Identify the technical milestones that the program is working toward, as well as policy directives and political requirements that are driving them. For each year of the R&D program through 2002, show the technical staffing levels for contractor personnel.

Response: The non-CFC R&D program is scheduled to end in 2002 as shown in attachment 1. The R&D program is followed by fleet implementation which continues through 2010. It is essential that R&D facilities remain operational through the period of fleet implementation to solve potential problems which occur during implementation. Attachment 2 shows details of the R&D program as it relates to specific ship classes.

The Department of Defense Directive (No. 6050.9), attachment 3, establishes policy and assigns responsibilities for Research and Development programs to develop suitable substitutes for CFC applications. Attachment 4 (OPNAVINST 5090.2) establishes policy for implementing the Department of Defense Directive within the Navy. The Naval Sea Systems Command letter of 27 July 1990 (attachment 5) assigns execution of the CFC R&D program to NSWC-CD. The staffing levels for contractors are shown in the following table and are our best estimates, assuming planned schedules can be met.

Staffing Level for Contractor Personnel By Fiscal Year and Site

	Fiscal year							
LOCATION	95	96	97	98	99	00	01	02
Annapolis on Site	2	2	2	2	2	2	2	2
York	40	42	44	40	30	20	10	0
Northern Research and Engineering	3	4	4	3	3	2	0	0

Note: This contractor effort does not include any support for technical manuals, etc. which are not included in the R&D program.

2. Is all of the program's technical activity confined to Buildings 3B/3C/3E?

Response: Yes, except for some of the technical personnel office space located in Building 3D which is adjacent to the others.

3. I understand that the total replacement value for the facilities is approximately $11.2M. Assuming available funds, how long would it take to

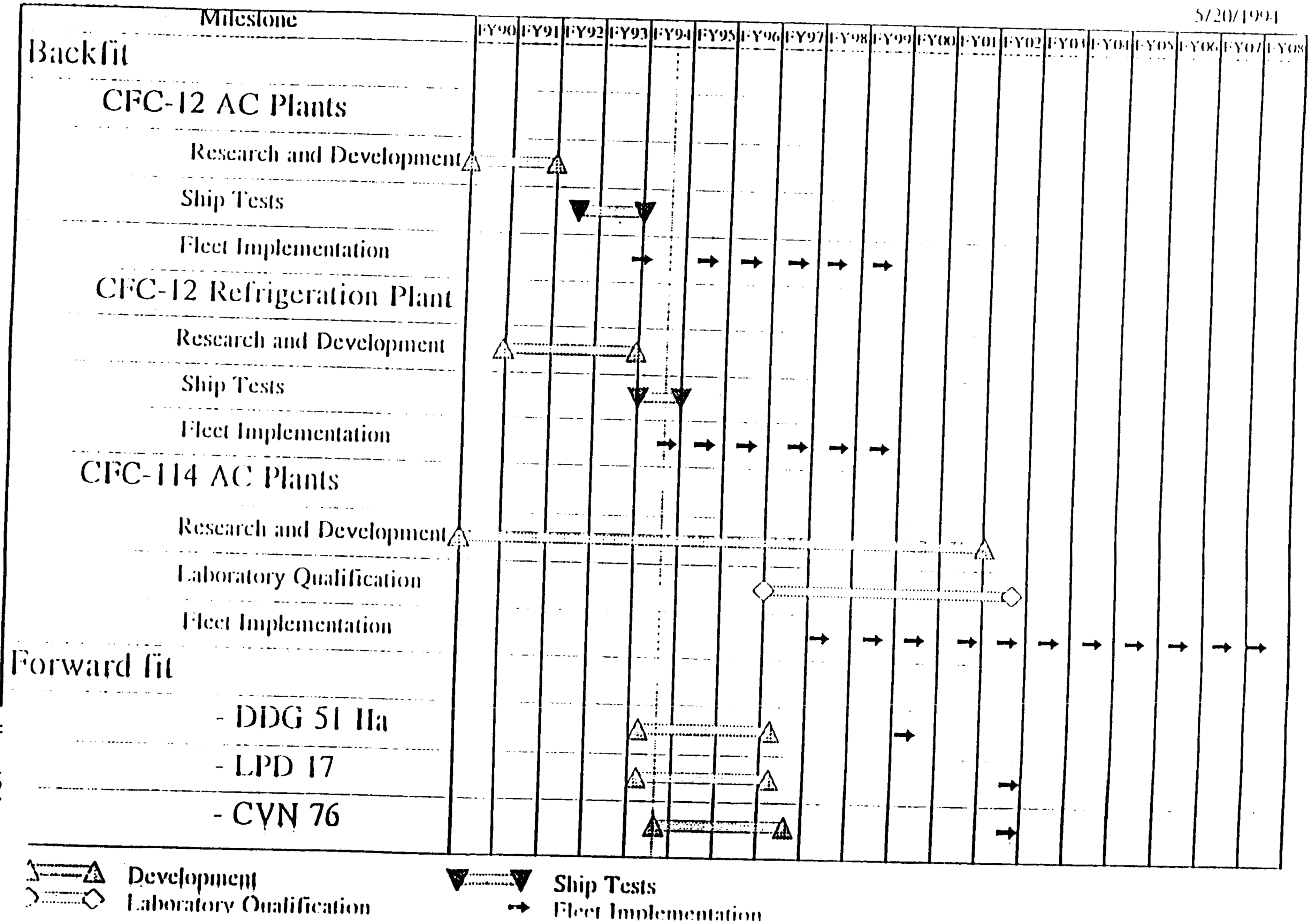
replicate (not relocate) those facilities at NSWC-Philadelphia, with concurrent operation of the present facilities?

Response: The replacement cost of $11.2M is correct, excluding class two (buildings) and the air conditioning plants themselves. The savings gained from not disassembling existing facilities and shipping them to Philadelphia is equivalent to the cost of purchasing new materials for use in Philadelphia. Assuming available funds in addition to qualified engineers and technicians, it would take approximately 18 months to replicate the facilities. This schedule could possibly be accelerated slightly by the use of extensive overtime with the associated increases in costs above $11.2M. For the facilities to be productive, and to avoid program delays, additional air conditioning plants would need to be purchased at a cost of approximately $9M with three year contract and delivery time. Following this, approximately 9 months of baseline operation to map the performance of the plant in its facility would be required before the R&D program could continue. Additional personnel would be required to be trained during this period to allow the Annapolis personnel to continue working; however, one would expect some delay in schedule due to an obvious requirement for the Annapolis personnel to be involved in the relocation activities. As an example, construction of the current facility began in 1991 and will be fully operational in 1995.

4. Where did the major equipment/facilities of the non-CFC complex come from?

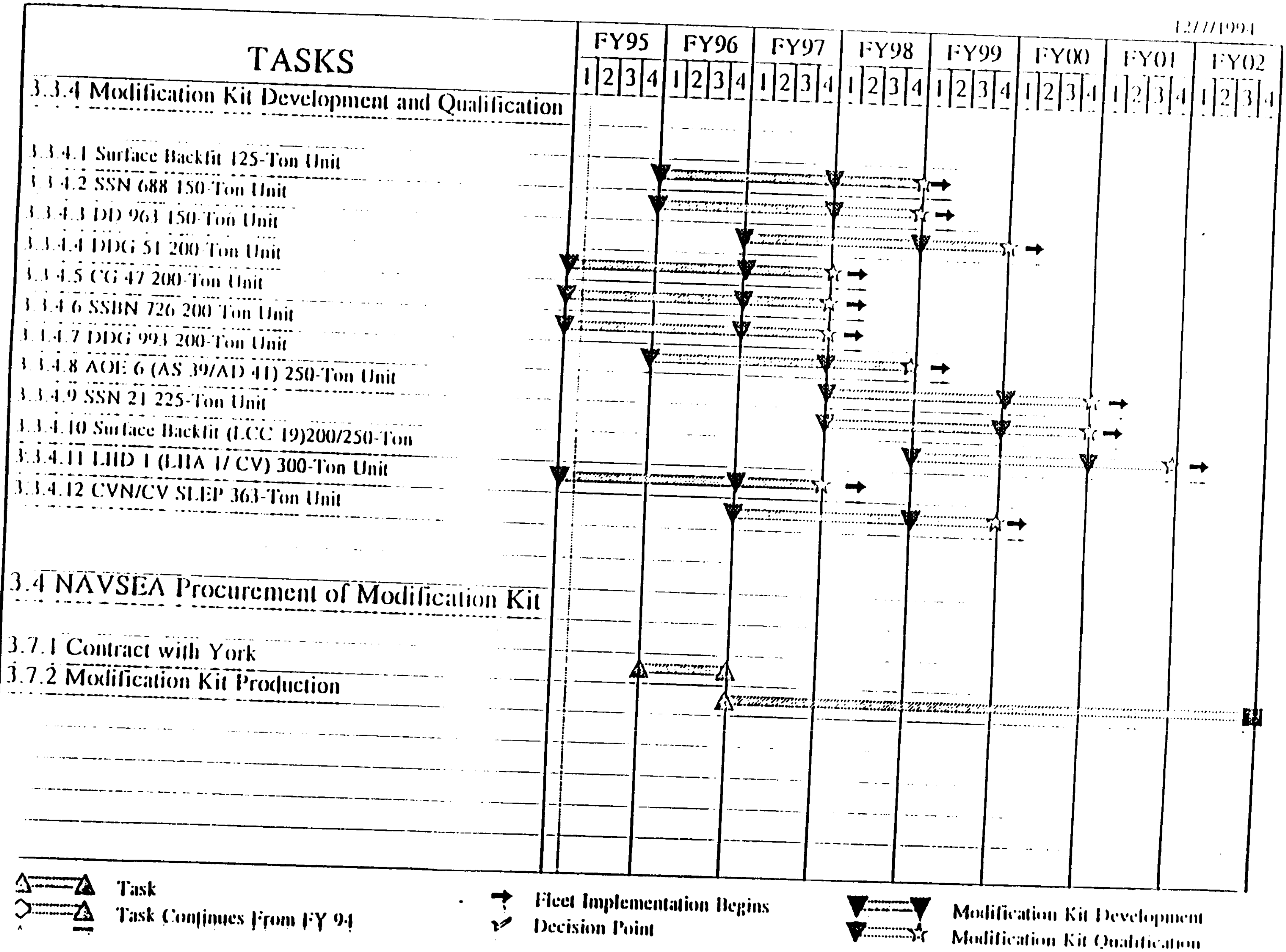
Response: The CFC Facilities were designed by NSWC Annapolis. They are constructed from commercially available materials, with the exception of the air conditioning plants themselves, which were purchased from York International. Construction of the facilities was done on site by NSWC personnel.

CFC Elimination Program - Refrigerants Project
Big Picture Milestones



(114)

CFC_X Elimination Program - Refrigerants



Department of Defense
DIRECTIVE

February 13, 1989
NUMBER 6050.9

USD(A)

SUBJECT: Chlorofluorocarbons (CFCs) and Halons

References: (a) Montreal Protocol on Substances that Deplete the Ozone Layer[1]
(b) Protection of Stratospheric Ozone: U.S. Environmental Protection Agency (USEPA) Final Rule (Federal Register, Volume 53, page 30566, August 12, 1988)

A. PURPOSE

This Directive establishes policy and assigns responsibilities for:

1. The management of CFCs and halons in the Department of Defense.

2. The identification of CFC and halon applications and prioritization of their uses.

3. The long-term process of decreasing DoD dependence on CFCs and halons because of reduced availability in future years due to recently promulgated international and domestic production limits (references (a) and (b)).

4. Research and development (R&D) programs to develop or evaluate suitable substitutes for halons and other mission-critical CFC applications.

5. A tracking system to document DoD's annual requirements for CFCs and halons.

B. APPLICABILITY AND SCOPE

This Directive applies to:

1. The Office of the Secretary of Defense (OSD), the Military Departments (including their National Guard and Reserve components), the Defense Agencies, and the DoD Field Activities (hereafter referred to collectively as "DoD Components").

2. The DoD R&D and Acquisition Program.

3. Appropriated and nonappropriated fund operations.

---

[1] Text is available from the U.S. Department of State. This protocol has been accepted by the United States and entered into force on 1 January 1989.

C. DEFINITION

Chlorofluorocarbons and Halons. As of August 1988, these include CFC-11, CFC-12, CFC-113, CFC-114, CFC-115, Halon 1211, Halon 1301, and Halon 2402. The protocol (reference (a)) is subject to periodic review, and additional chemicals may be added to the list.

D. POLICY

The DoD Components shall:

1. Establish procedures to eliminate the unnecessary release of these chemicals to the atmosphere.

2. Identify and prioritize CFC and halon uses and applications to ensure available supplies meet mission-critical needs.

3. Modify operational, training, and testing practices to minimize the emissions of CFCs and halons when appropriate.

4. Develop or adopt conservation practices such as recycling, reuse, dilution and substitution, when appropriate and consistent with mission requirements.

5. Adopt suitable substitutes when consistent with mission requirements.

6. Review and modify military specifications to permit use of new processes, techniques, or chemicals for requirements currently being met by CFCs and halons.

7. Conduct R&D to identify or develop alternate processes, chemicals, or techniques for functions currently being met by CFCs and halons.

8. Collect procurement data on an annual basis.

9. Establish a central point of contact to oversee implementation of all policies and programs required by this Directive.

10. Ensure the required amounts and types of CFCs and/or halons are available for mission-critical applications when substitutes are not yet available. This shall include emergency and mobilization requirements.

E. RESPONSIBILITIES

1. The Assistant Secretary of Defense (Production and Logistics) (ASD(P&L)) shall provide policy and management oversight for reducing DoD's long-term dependence on CFCs and halons including issues related to military specifications and annual procurement and demand.

2. The Deputy Under Secretary of Defense (Research & Advanced Technology) (DUSD(R&AT)) shall coordinate R&D programs, as appropriate, on alternative chemicals or technologies for fire and explosion suppression and, if necessary, other CFCs.

CHLOROFLUOROCARBONS (CFCs) ANL LON ANNUAL REPORT
FOR CALENDAR YEAR ____

REPC OL SYMBOL

CHEMICAL	1. PROCUREMENT* (In thousands of pounds) (1) Sum of Integrated Materiel Manager Reporting	(2) Local Purchase by Component	(3) New System Acquisition	2. DEMAND** (In thousands of pounds) (1) Army	(2) Navy	(3) Air Force	(4) Marines	(5) Other (Specify
a CFC-11								
b CFC-12								
c CFC-113								
d CFC-114								
e CFC-115								
f HALON 1211								
g HALON 1301								
h HALON 2402								

3 REMARKS

NOTES:
* PROCUREMENT - Material purchased by component.
** DEMAND - Material requisitioned from procuring component to user or other military component.

56T.T II

DEPARTMENT OF THE NAVY
Office of the Chief of Naval Operations
Washington, DC 20350-2000

OPNAVINST 5090.2
OP-45
22 January 1990

OPNAV INSTRUCTION 5090.2

From: Chief of Naval Operations
To: All Ships and Stations (less Marine Corps field addressees not having Navy personnel attached)

Subj: MANAGEMENT OF OZONE DEPLETING SUBSTANCES

Ref: (a) SECNAVINST 5090.5 (NOTAL)
(b) Montreal Protocol on Substances that Deplete the Ozone Layer (NOTAL)
(c) Environmental Protection Agency, Stratospheric Ozone Protection Regulation, 40 CFR 82 (NOTAL)
(d) OPNAVINST 4110.2 (NOTAL)
(e) OPNAVINST 5100.19B (NOTAL)
(f) OPNAVINST 5090.1 (NOTAL)
(g) Submarine Atmosphere Control Manual, S9510-AB-ATM-010/U (NOTAL)

1. **Purpose.** To implement reference (a) within the Navy and establish policies and assign responsibilities for management of ozone depleting substances.

2. Background

a. Chlorofluorocarbons (CFCs) and halons have been linked to the depletion of the Earth's ozone layer which protects life from damaging ultraviolet light. In response to the threat ozone depleting substances present to the environment, 39 nations, including the United States (U.S.), signed the Montreal Protocol (reference (b)). Reference (c) is the regulation issued by the Environmental Protection Agency (EPA) implementing the Montreal Protocol. Reference (b) has been in force in the U.S. since 1 January 1989 and currently provides for the following:

(1) Freezing CFC production at 1986 levels by 1989.

(2) 20 percent reduction, from 1986 levels, in CFC production by 1993.

(3) A further 30 percent reduction in CFC production by 1998.

(4) Freezing halon production at 1986 levels by 1992.

b. In March 1989, the 12 European Community countries voted to eliminate all CFC production by the end of the century. Increasing national and international concerns and pressures may result in further significant reductions in production and perhaps total elimination of ozone depleting substances within the next 10 to 15 years.

3. Applicability. This instruction applies to all Navy ships, shore activities and Government-Owned/Contractor-Operated (GO/CO) facilities world-wide.

4. Definitions

a. **Ozone Depleting Substances.** As of the issuance of this instruction, chemicals subject to reference (b) include CFC-11, CFC-12, CFC-113, CFC-114, CFC-115, (also referred to as Freons 11, 12, 113, 114 and 115) Halon 1211, Halon 1301 and Halon 2402 (also referred to as R-1211, 1301 and 2402. Reference (b) is subject to review in April 1990 and periodically thereafter. As a result of these reviews, additional chemicals may be added to this list. The EPA has already proposed that carbon tetrachloride and methyl chloroform be added to the list of chemicals regulated under reference (b).

b. Acquisition. Any act of obtaining ozone depleting substances, including those obtained as a component of a piece of equipment. This includes acquisitions by an activity from Naval Supply Systems Command (NAVSUPSYSCOM), General Services Administration, activity supply department or any other organization.

56-5044
07E, 09B38, 09B11

0579-LD-054-5670

5. **Discussion.** To ensure that adequate quantities of ozone depleting substances like CFCs and halons are available for mission essential operations (e.g. fire protection), the Navy must determine where these substances are used and in what quantities. Equally important is the ability to demonstrate those actions the Navy is undertaking to reduce the use and emission of ozone depleting substances. This is particularly important if a one-for-one substitute for halon and certain critical CFCs is not developed within the near future and legislation is proposed which totally phases out production of those substances. In the event that such legislation is proposed, the Navy must be in a position to demonstrate that its use of ozone depleting substances is restricted, and that deliberate emissions of ozone depleting substances with the exception of halon, will not occur and that halon emissions will only occur to fight a fire. To satisfy these objectives, annual acquisition reporting, emissions reporting and a zero discharge policy for disposal of ozone depleting substances are provided for in this instruction.

6. **Policy**

a. Emissions of ozone depleting substances by direct release to the atmosphere are prohibited as of 1 January 1993 or within 24 months after the issuance of procurement specifications for CFC and halon recycling units by the Naval Sea Systems Command (NAVSEASYSCOM), whichever is earlier.

b. Emissions of ozone depleting substance afloat or ashore after 1 January 1993 shall be reported to Chief of Naval Operations (CNO (OP-45)) under procedures and criteria to be developed by NAVSEASYSCOM.

c. Ozone depleting substances, in general, are hazardous material (HM) and are subject to the requirements of this instruction as well as references (c) and (e).

d. Non-essential and non-military unique uses of ozone depleting substances shall be phased out as soon as possible at all levels.

e. Conservation practices such as recycling of ozone depleting substances shall be used to the maximum extent possible.

f. Operational, training and testing practices shall be modified to reduce emissions of ozone depleting substances to the maximum extent possible and eventually eliminate their use completely.

g. Usage of ozone depleting substances shall be surveyed, emissions inventoried and usages prioritized to identify mission essential operations and volumes required for those essential operations.

h. Acquisition of ozone depleting substances shall be carefully controlled and regulated to ensure that accurate usage and inventory data can be annually prepared.

i. Surveys on the amounts of ozone depleting substances acquired each calendar year shall be collected annually beginning in calendar year 1991 by NAVSUPSYSCOM for all shore activities and GO/CO facilities. These surveys are required by reference (a). Individual ship reporting shall not be required since they will be included in the Navy Supply Center acquisition reports.

(1) Annual reporting of ozone depleting substance purchases is required from each Navy shore activity and GO/CO regardless of size. Every specific shore activity that acquires ozone depleting substances must report separately.

(2) Reporting on ozone depleting substances acquisition shall be done as part of a Navywide Hazardous Material Control and Tracking System to be developed by NAVSUPSYSCOM. (OPNAV 5090-3 applies.)

j. Navy shore activities shall each report their emissions of CFCs and halons under the criteria to be established by NAVSEASYSCOM. Non-Navy tenants located on Navy activities are not required to report their emissions of CFCs and halons to the Navy.

k. Navy tenant activities located on non-Navy host facilities shall submit their annual acquisitions of CFCs and halons as specified in paragraph 6i.

7. **Responsibilities and Actions**

a. **OPNAV Principal Officials.** Within the Office of the Chief of Naval Operations (OPNAV), the following actions and responsibilities are assigned:

(1) Deputy Chief of Naval Operations (Logistics) will:

(a) Annually review in conjunction with the Assistant Chiefs of Naval Operations and Director of Research and Development Requirements, Test and Evaluation the adequacy of ozone depleting substances programs and resources.

(b) Review and prioritize usage of ozone depleting substances at shore facilities in order to establish quantity requirements for inventory management of ozone depleting substances and to ensure required amounts are available for mission essential applications at shore facilities.

(c) Submit an annual acquisition report on ozone depleting substances to the Assistant Secretary of the Navy (Shipbuilding and Logistics) for submittal to the Deputy Assistant Secretary of Defense (Environment) as required by reference (a).

(2) Assistant Chiefs of Naval Operations will review and prioritize usage of ozone depleting substances aboard submarines, ships and aircraft to establish quantities required for inventory management of ozone depleting substances and to ensure required amounts are available for mission essential applications.

(3) Director of Research and Development Requirements, Test and Evaluation will annually review the adequacy of programmed funds and schedules, including test and evaluation, to achieve the Research and Development (R&D) policies established in this instruction and reference (a).

b. **Echelon II Commands.**

(1) All Echelon II Commands will:

(a) Implement the policies and procedures of this instruction and ensure that annual reporting requirements of this instruction are correctly followed by their activities.

(b) Identify in their Program Objectives Memorandum (POM) process funding for elimination, recycling and substitution of ozone depleting substances. Information to be included:

((1)) Estimates of resource requirements.

((2)) Assignment of responsibilities within their respective organization.

((3)) Description of specific projects for elimination, recycling or substitution of ozone depleting substances with estimates on reduction in usage or emissions, cost and completion date.

(c) Beginning with fiscal year 1990, annually report to NAVSEASYSCOM (SEA 56) by 1 January (first report due 1 January 1991) on their accomplishments from the previously completed fiscal year, related to the elimination, recycling and substitution of ozone depleting substances. Information to be included in the report:

((1)) Description of specific work completed or underway and volume of each type of ozone depleting substances eliminated, recycled or substituted.

((2)) Amount and types of funds expended on each project.

((3)) List of specifications and preventive maintenance procedures which were revised, eliminating the requirement for use of ozone depleting substances.

((4)) List of specifications and preventative maintenance procedures which still require use of ozone depleting substances and plans of actions and milestones for their revision, eliminating use of those substances.

(d) Revise preventative and corrective maintenance procedures to incorporate use of CFC and halon recycling units within 24 months of the issuance of a procurement specification for those units by NAVSEASYSCOM.

(e) Establish a command coordinator to exercise overall direction of their elimination/minimization programs for ozone depleting substances and inform CNO (OP-45) and NAVSEASYSCOM (SEA-56) of same within 90 days of the date of this instruction.

(f) Expedite implementation of non-ozone depleting substitutes, ozone depleting substance recycling methods and use of substitute test gases and training foams.

(g) Participate in national ozone depleting substance (R&D) consortiums to ensure that the Navy's interests are identified and to determine what organizations shall conduct R&D to address their unique operations which use ozone depleting substances.

(2) Commander, NAVSEASYSCOM will:

(a) Serve as the lead echelon II command and coordinate the ozone depleting substances programs of the other echelon II commands.

(b) In conjunction with NAVAIRSYSCOM and other interested echelon II commands, develop procurement specifications for commercially available individual and combination CFC and halon recycling units by 1 July 1990.

(c) Submit annually, by 1 April of each year, a report to CNO (OP-45) on the progress made by all echelon II commands on elimination, recycling and substitution of ozone depleting substances. Also include a Navy plan for further actions after surveying the echelon II's requirements.

(d) Prepare, in conjunction with NAVSUPSYSCOM, forms to be used in the Navy-wide Hazardous Material Control and Tracking System for reporting annual calendar year acquisition of ozone depleting substances (DD-P&L(A)1504(5090 applies.)

(e) Prepare procedures and criteria for reporting emissions of ozone depleting substances. This reporting shall be similar to oil spill reporting already required by reference (f). Reporting to begin by 1 January 1993 unless superceded by EPA regulations. Reporting procedures to be revised as necessary to comply with EPA regulations.

(3) Commander, NAVAIRSYSCOM will:

(a) Perform Navywide survey of ozone depleting substances usage, emissions and acquisitions for calendar years 1989 and 1990 in coordination with NAVSEASYSCOM. Survey to include submarines, ships, aircraft, GO/CO and shore facilities and shall address current and proposed ozone depleting substances as identified by EPA at the time of the survey.

(b) Assist NAVSEASYSCOM in the development of a procurement specification for a halon recovery unit.

(c) Utilizing the Department of Defense Automated Specifications and Standards Information System (ASSIST), perform Navy-wide specification review and identify those specifications requiring use of ozone depleting substances. Identify Navy specifications which require use of an ozone depleting substance and provide a report to NAVSEASYSCOM and each appropriate echelon II command. Update the ASSIST database as directed by NAVSEASYSCOM when specifications incorporate environmentally and mission acceptable substitutes.

(4) Commander, NAVSUPSYSCOM will:

(a) In conjunction with NAVSEASYSCOM and consistent with reference (d), revise acquisition instructions and guidance, starting with calendar year 1991, for reporting on the acquisition of all current and proposed ozone depleting substances throughout the Navy. These revisions shall be extensive enough to eliminate the reporting of ozone depleting substances purchases by commands afloat.

(b) Revise, as necessary, acquisition instructions and guidance to include additional ozone depleting substances as they are regulated by the Environmental Protection Agency.

(c) Provide NAVSEASYSCOM the annual data on ozone depleting substances by 1 March of each year.

(d) Develop a system for inventory management of mission essential quantities of ozone depleting substances by 1 January 1993. Inventory management to be based on the quantities established by the Assistant and Deputy Chiefs of Naval Operations in paragraphs 7a(2) and 7b(3) respectively.

(e) When requested, assist NAVAIRSYSCOM's survey of ozone depleting substances by providing procurement and requisition information. Also provide assistance to other echelon II commands as requested.

(f) Incorporate into the Navy supply system CFC and halon recycling units within 150 days of issuance of a procurement specification by NAVSEASYSCOM.

(5) Commander, Naval Facilities Engineering Command will revise Resident Officer In Charge of Construction (ROICC) guidance to address the reporting of indirect purchases of ozone depleting substances, via construction contracts, to NAVSUPSYSCOM.

(6) Chief, Bureau of Medicine and Surgery will provide workplace hazard evaluations and health risk assessments on substitutes for ozone depleting substances in Navy unique working environments as requested by other echelon II commands.

(7) Chief of Naval Education and Training will:

(a) Develop alternate training procedures using non-ozone depleting substances where consistent with mission requirements.

(b) Incorporate ozone depleting substances issues into the hazardous material control and management training to be developed under reference (d).

c. Commanding Officers

(1) Commanding Officers ashore and afloat will:

(a) Beginning 1 January 1993, report emissions of ozone depleting substances under the procedures to be developed by NAVSEASYSCOM.

(b) Implement appropriate ozone depleting substances procurement and requisition procedures when established by NAVSUPSYSCOM in 1991. Internal purchasing procedures shall also be established consistent with reference (d).

(c) Ozone depleting substances shall be included in the "authorized HM use list" required for development by reference (d) for shore activities and in the "Ships Hazardous Material List" under references (e) and (g) for forces afloat.

(d) Establish procedures to eliminate emissions of ozone depleting substances to the atmosphere and modify operations, training and testing practices accordingly.

(e) Adopt conservation practices, such as substitution and recycling of ozone depleting substances, where possible and consistent with mission requirements.

(2) Commanding Officers ashore will, beginning with calendar year 1991, annually report on the quantities of ozone depleting substances acquired. Report to be done following the instructions to be prepared by NAVSUPSYSCOM. Report to be submitted by 1 February of the following year. (DD-P&L(A) 1504(5090) applies.)

8. Reports. The following reports are approved for three years from the date of this instruction:

Report Symbol	Title	Paragraph
OPNAV 5090-6	Elimination, Recycling and Substitution of Ozone Depleting Substances	7b(1)
OPNAV 5090-7	Progress of Echelon II Commands on Elimination, Recycling and Substitution of Ozone Depleting Substances	7b(2)
OPNAV 5090-8	Report of Emissions of Ozone Depleting Substances	7c(1)

S. R. ARTHUR
Deputy Chief of Naval
Operations (Logistics)

Distribution:
SNDL Parts 1 and 2

Chief of Naval Operations
(Code OP-09B34)
Navy Department
Washington, DC 20350-2000 (210 copies)

Commander
Naval Data Automation Command
(Code 813)
Washington Navy Yard
Washington, DC 20374-1662 (50 copies)

(continues on next page)

LIST OF CLASS I AND CLASS II CHEMICALS[1]

CLASS I CHEMICAL AGENTS

Group I CFC - chlorofluorocarbon

		ODP[2]
CFC-11	Trichlorofluoromethane	1.0
CFC-12	Dichlorodifluoromethane	1.0
CFC-113	Trichlorotrifluoroethane	0.8
CFC-114	Dichlorotetrafluoroethane	1.0
CFC-115	Chloropentafluoroethane	0.6
CFC-500[3]	Dichlorodifluoromethane-difluoroethane	0.738
CFC-502[3]	Chlorodifluoromethane-chloropentafluoroethane	0.307

Group II

Halon-1211	Bromochlorodifluoromethane	3.0
Halon-1301	Bromotrifluoromethane	10.0
Halon-2402	Dibromotetrafluoroethane	6.0

Group III CFC - chlorofluorocarbon

CFC-13	Chlorotrifluoromethane	1.0
CFC-111	Pentachlorofluoroethane	1.0
CFC-112	Tetrachlorodifluoroethane	1.0
CFC-211	Heptachlorofluoropropane	1.0
CFC-212	Hexachlorodifluoropropane	1.0
CFC-213	Pentachlorotrifluoropropane	1.0
CFC-214	Tetrachlorotetrafluoropropane	1.0
CFC-215	Trichloropentafluoropropane	1.0
CFC-216	Dichlorohexafluoropropane	1.0
CFC-217	Chloroheptafluoropropane	1.0
CFC-503[3]	Chlorotrifluoromethane-trifluoromethane	0.599

Group IV

Carbon Tetrachloride	Tetrachloromethane	1.1

Group V

Methyl Chloroform	Trichloroethane (all isomers)	0.1

Stock[illegible]
CO [illegible]RMCEN
580[illegible]
Phila[illegible] 19120-5099 (500 copies)

DEPARTMENT OF THE NAVY
Office of the Chief of Naval Operations
Washington DC 20350-2000

OPNAVINST 5090.2A
N45
14 July 1994

OPNAV INSTRUCTION 5090.2A

From: Chief of Naval Operations
To: All Ships and Stations (less Marine Corps field addressees not having Navy personnel attached)

Subj: MANAGEMENT OF OZONE DEPLETING SUBSTANCES

Ref: (a) DOD Directive 6050.9 of 13 Feb 89 (NOTAL)
(b) SECNAVINST 5090.5 of 20 Nov 89 (NOTAL)
(c) Clean Air Act, as amended, 42 United States Code (U.S.C.) §7401-§7671q
(d) Department of Defense (DOD) Authorization Act of 1993, Public Law (P.L.) 102-484, § 326
(e) 40 Code of Federal Regulations (CFR) Part 82, Protection of Stratospheric Ozone
(f) OPNAVINST 4110.2 (NOTAL)

Encl: (1) List of Class I and Class II Chemicals
(2) Ozone Depleting Substances Annual Report

1. **Purpose**

a. To implement references (a) and (b), and incorporate necessary changes to the U.S. Navy Chlorofluorocarbon (CFC) and Halon Program under the enactment of the Clean Air Act Amendments of 1990 (reference (c)), the accelerated production phase-out schedule for Class I Ozone Depleting Substances (ODSs) announced by the President, and reference (d).

b. To detail the specific restrictions and uses of ODSs within Navy.

This instruction has been substantially revised and should be reviewed in its entirety.

2. **Cancellation.** OPNAVINST 5090.2 and OPNAV 5090-6.

3. Background

a. CFCs, halons and other chlorinated hydrocarbons (carbon tetrachloride, methyl chloroform, hydrochlorofluorocarbons (HCFCs), etc.) have been linked to the depletion of the earth's ozone layer which protects life and vegetation from damaging ultraviolet light. In response to the threat ODSs present to the environment, more than 70 nations, including the United States, signed an international agreement known as the Montreal Protocol limiting ODS production. In 1990, due to increasing evidence of continued harm to the ozone layer, the Protocol was amended to provide for the eventual elimination of most ODSs. In November 1990, the United States Congress passed implementing national legislation as part of the 1990 Clean Air Act Amendments (reference (c)).

b. Based on National Aeronautics and Space Administration (NASA) findings of increased stratospheric ozone layer depletion, President Bush announced, on 11 February 1992, the United States will unilaterally accelerate the production phase-out of all Class I ODSs to 31 December 1995.

c. In November 1992, in a meeting in Copenhagen, parties to the Montreal Protocol agreed to accelerate the production phase-out schedules of CFCs to 1 January 1996 and halons to 1 January 1994.

d. In summary, all of the above actions provide for the following:

(1) Production reductions for CFCs, halons, carbon tetrachloride and methyl chloroform (also known as 1,1,1 trichloroethane) with total production elimination by 1996.

(2) Mandatory use of approved recovery and recycling equipment by a certified technician when repairing or servicing motor vehicle air conditioners.

(3) Mandatory use of approved recovery and recycling equipment by a certified technician when repairing, servicing, maintaining or disposing of appliances and industrial process refrigeration and air conditioning.

0579L0857234O

(4) The prohibition of the knowing release of any Class I or Class II ODS refrigerant during service, repair or disposal of appliances and industrial process refrigeration and air conditioning.

(5) Reduction of the use and emission of ODSs to the lowest achievable level.

4. Applicability. This instruction applies to all Navy ships, squadrons, shore activities (including non-appropriated fund activities) and Government-Owned Contractor-Operated (GOCO) facilities world-wide except as follows:

a. **Naval Nuclear Propulsion Program.** Executive Order (E.O.) 12344, statutorily prescribed by Public Law (P.L.) 98-525 (42 U.S.C. 7158, note), establishes the responsibilities and authorities of the Director, Naval Nuclear Propulsion Program, N00N, in the Office of the Chief of Naval Operations (who is also Deputy Commander Nuclear Propulsion Directorate (SEA 08) in the Naval Sea Systems Command) over all facilities and activities which comprise the Program, a joint Department of Energy (DOE)/Navy organization. These responsibilities and authorities include all technical and logistical matters related to naval nuclear propulsion. Nothing in this policy supersedes or changes these responsibilities and authorities which includes ensuring compliance with applicable statutory and regulatory requirements such as those prescribed by reference (c). The provisions of this instruction do not apply to facilities and activities covered under E.O. 12344 and P.L. 98-525.

b. **Medical Devices.** This policy does not apply to essential uses of ODSs for medical devices as defined in P.L. 101-549 § 601(8) and approved for use as specified in P.L. 101-549 § 604(d)(2) and § 605(d)(1) by the Commissioner of the Food and Drug Administration and the Administrator of the Environmental Protection Agency (EPA) for Class I and Class II ODS.

c. **Small Appliances.** Small appliances are appliances that do not normally require routine maintenance of the sealed refrigerant system and contain a refrigerant charge of five pounds or less. Examples are refrigerators, freezers, dehumidifiers, ice makers, vending machines, water coolers, etc. The phase-out of Class I ODSs used in shore-based non-mission critical heating, ventilating, air conditioning and refrigerating (HVAC&R) equipment in paragraph 7b does not apply to small appliances.

5. Definitions

a. **Ozone Depleting Substances (ODSs).** Any chemical which is listed as a Class I or Class II substance as defined in reference (c). A complete listing of ODSs as of the date of this instruction is included in enclosure (1). As of the issuance of this instruction, ODSs most prevalent in Navy applications include: CFC-11, CFC-12, CFC-113, CFC-114, CFC-115, HCFC-22 (CFCs and HCFCs are also commonly referred to as Freons), Halon 1211, Halon 1301, methyl chloroform and carbon tetrachloride.

b. **Acquisition.** Acquisition of ODSs will be in accordance with reference (d), E.O. 12843 of 21 April 1993 and the Secretary of the Navy memorandum of 28 May 1993, "Elimination of Class I Ozone Depleting Substances in Department of the Navy Contracts" (NOTAL), all implementing procurement regulations and reference (e).

c. **Recovery.** The removal of any Class I or Class II ODS in any condition from a system without testing or processing.

d. **Recycling.** The reduction of contaminates in a used ODS by oil separation and single or multiple passes through devices which reduce moisture, acidity and particulate matter.

e. **Reclaiming.** The process of returning a used or contaminated ODS to near original specifications, by means which may include distillation. Chemical analysis of the ODS is required to determine that the appropriate product specifications are met.

f. **Mission Critical Use.** Any use of a substance which has an impact on combat mission capability as determined by the Chief of Naval Operations.

6. **Discussion**

a. In recent years, Navy has been involved in the research and development of alternative substances and systems, and recovery and recycling equipment that decrease Navy's dependence on ODSs. Due to the large quantities of agents used and the numerous applications of these agents, each situation should be carefully evaluated to determine the proper course of action needed to phase out the usage of such agents in all military applications, such as fire protection and shipboard chilled-water air conditioning and refrigeration systems. It is essential these agents be recycled, conserved and properly managed to ensure adequate availability of agent until such time as a suitable alternative can be tested, qualified, and implemented. It is important Navy continue to reduce use of ODS, and where used, to eliminate emissions of ODSs for compliance with the requirements of reference (c).

b. To satisfy these objectives this instruction provides policy on ODS use, recycling, material management, emissions, substitution, and research, development, testing and evaluation (RDT&E). This instruction also provides for annual demand reporting.

7. Policy

a. Navy activities will procure recycled or reclaimed ODSs whenever possible.

b. The use of Class I ODSs will continue for mission critical applications to not jeopardize or degrade the safety or operational requirements of Navy. Navy mission critical applications are as follows:

(1) CFC-12, CFC-11, CFC-500 and CFC-114 used in ship combat systems support equipment and aircraft environmental control systems.

(2) Halon 1211 used in flight line fire protection, ship and shore-based crash fire and rescue vehicles, and limited use for firefighter training.

(3) Halon 1301 used in shipboard room flooding applications and aircraft fire protection.

(4) Essential CFC-113 uses in the manufacturing and maintenance of combat weapon and support systems where no compatible approved substitute exists (e.g., cleaning of gyroscopes and compressed oxygen systems).

(5) Shore-based heating, ventilating, air conditioning, and refrigerating (HVAC&R) equipment and fire protection systems directly supporting weapon delivery systems.

The use of ODSs in mission critical applications will continue until such time as the cognizant Echelon 2 command approves and implements safe alternative substances or systems. Echelon 2 commands will determine ODS reserve requirements for these applications that will ensure continued operation for the expected service life of the weapon system or equipment.

c. All shore-based (non-mission critical) HVAC&R equipment for which procurement was initiated after the date of this instruction will use an EPA Significant New Alternatives Program (SNAP)-approved refrigerant with an ozone depletion potential (ODP) of 0.05 or less. Currently installed shore-based (non-mission critical) HVAC&R equipment containing a Class I ODS will be replaced or converted to an EPA SNAP-approved refrigerant with an ODP of 0.05 or less by 31 December 2000. Serviceable refrigerant from the above replacements or conversions will be recovered, recycled, reclaimed and reused. Refrigerant recovered, recycled, and reclaimed may be stored and used locally in order to service existing Class I ODS HVAC&R equipment to ensure orderly transition to a non-Class I ODS refrigerant. This supply will be managed at the activity level and eventually disposed of, or deposited in Navy ODS reserve in accordance with all applicable regulations. If an activity determines it is economically feasible to maintain some HVAC&R equipment containing a Class I ODS past 31 December 2000, then a waiver in accordance with this instruction is required.

d. Procurement of portable halon fire extinguishers is prohibited except for mission critical uses.

e. Installation of shore-based Halon 1301 fire protection systems is prohibited.

f. All non-mission critical shore-based Halon 1301 systems will be replaced by 31 December 2000. Halon 1301 will be recovered and deposited in the Navy portion of the DOD ODS reserve. Transfer and processing of Halon 1301 will be accomplished as per Defense Logistic Agency (DLA) and Commander, Naval Supply Systems Command (COMNAVSUPSYSCOM) guidance.

g. By not later than 1 January 1996, all non-mission critical halon portable fire extinguishers will be removed and redistributed locally to support mission critical requirements or turned in to DLA for inclusion in the Navy portion of the DOD ODS reserve.

h. Navy activities requiring ODS solvents for mission critical applications after 31 December 1995 will be supplied at the local level through the use of recycled or reclaimed sources. If an activity determines that mission critical needs cannot be fulfilled from recycled or reclaimed sources, the activity should forward this information to Chief of Naval Operations (CNO (N45)) via its cognizant Echelon 2 command for certification of its application and procurement quantity in order that a critical use production exemption can be sought from EPA.

i. It is unlawful for any person, in the course of maintaining, servicing, repairing or disposing of an appliance or industrial process refrigerant to knowingly vent or otherwise knowingly release or dispose of any Class I or Class II ODS used as a refrigerant in such appliance or industrial process refrigerant in a manner which permits the substance to enter the environment. De Minimus releases associated with good faith attempts to recapture and recycle or safely dispose of Class I and Class II ODSs are not subject to the preceding sentence.

j. EPA-approved refrigerant recovery equipment will be used for all commercial off-the-shelf equipment. For military-unique systems, recovery equipment will be designed to the extent practical to achieve performance comparable to that required of commercial equipment by the EPA.

k. All Navy military and civilian refrigerant technicians will be certified as per reference (e), Subpart F.

l. New and converted HVAC&R equipment will include refrigerant isolation valves and service apertures to facilitate recovery and recycling procedures in accordance with reference (c) rulemaking requirements.

m. Intentional releases of halon during the service, maintenance, repair and disposal of any fire fighting equipment will be illegal as of 15 November 1994.

n. Navy activities will use EPA SNAP-approved alternatives with an ODP of zero, whenever possible. If no EPA SNAP-approved alternatives with an ODP of zero exist, activities shall adopt ODS alternatives with an ODP of 0.05 or less for HVAC&R equipment or 0.2 for fire fighting equipment. Activities should consider the production phaseout schedule for most Class II ODSs begins in 2020 and is subject to possible acceleration.

o. ODS refrigerants are considered hazardous material (HM) and are subject to the requirements of this instruction as well as references (c) and (f). Under 58 Federal Register (FR) 5910, EPA issued an interim final rule that suspends the toxicity characteristic of used Class I and Class II ODS refrigerants contained with enclosed recycling systems provided the refrigerant is reclaimed and intended for further use. Therefore, used Class I and Class II ODS refrigerants that are recycled for future use will not be considered hazardous waste under federal laws; however, where they are more restrictive, state and local ODS regulations apply.

p. Conservation practices for all ODSs including regular system leak checks, improved supply management, and recycling and reclamation of Class I and Class II ODSs will be used to the extent practical.

q. As required by reference (a), information on ODS demand quantities for Navy use will be collected and reported annually to COMNAVSUPSYSCOM.

r. Surveys on ODS demand will be conducted annually by COMNAVSUPSYSCOM for all ships, shore activities and GO/CO facilities. All Navy activities, tenant activities and ships will report demand of ODSs purchased outside the Naval Supply System in accordance with enclosure (2) by not later than 1 February of each year.

s. All operational, training and testing practices will be reviewed and modified to reduce and eliminate emissions of ODSs to the maximum extent possible.

t. Navy activities having any information regarding new emerging technologies and alternatives for the elimination of ODSs should contact Commander, Naval Sea Systems Command (COMNAVSEASYSCOM (SEA 03V2)) for incorporation into Navy's CFC/Halon Information Clearinghouse (CHIC). Furthermore, activities may request information on ODS alternatives by contacting the CHIC through COMNAVSEASYSCOM.

u. No Navy activity will sell any Class I ODS outside the Navy without written permission from the Chief of Naval Operations. Excess Class I ODSs will be deposited into the Navy portion of the DOD ODS reserve.

v. HVAC&R equipment determined to be usable when turned into the Defense Reutilization and

Marketing Service (DRMS) will be labelled to indicate the equipment contains an ODS. Activities transferring HVAC&R equipment to DRMS for disposal as scrap must recover the ODS prior to disposal. This also applies to small appliances.

w. Requests for waivers to the provisions of this instruction will be submitted to the Chief of Naval Operations via the chain of command. For such waivers, an activity must demonstrate the application of this instruction is impractical or results in the expenditure of resources which are not commensurate with the resultant reduction in the potential for unintentional release of ODSs to the environment. Statutory requirements will not be waived.

8. Responsibilities and Actions

a. OPNAV Principal Officials. Within the Office of the Chief of Naval Operations (OPNAV), the following actions and responsibilities are assigned:

(1) Deputy Chief of Naval Operations (Logistics) will:

(a) Annually review in conjunction with the Directors of Warfare Divisions and Director of Test & Evaluation and Technology Requirements the adequacy of ODSs programs and resources.

(b) Submit an annual demand report on ODSs to the Assistant Secretary of the Navy (Installations and Environment) for submittal to the Deputy Under Secretary of Defense (Environment Security) as required by reference (a) (DD 2530 applies).

(c) Review all requests for waivers to this instruction and forward recommendations to the Assistant Secretary of the Navy (Installations and Environment).

(2) Director of Test and Evaluation and Technology Requirements will: Annually review the adequacy of programmed funds and schedules, including test and evaluation, to achieve the research and development (R&D) policies established in this instruction and reference (a).

b. Echelon 2 Commands

(1) All Echelon 2 commands will:

(a) Implement the policies and procedures of this instruction and ensure that annual reporting requirements outlined in this instruction are correctly followed by their activities.

(b) Identify in their Program Objectives Memorandum (POM) process funding for elimination, recycling and substitution of ODSs. R&D requirements will be coordinated with COMNAVSEASYSCOM (SEA 03V2) to avoid redundant efforts. All funding requirements from Echelon 2 commands will be coordinated with CNO (N4) and forwarded directly to the appropriate resource sponsor. Funding requirements should include:

1. Estimates of resource requirements including costs associated with the revisions to military specifications referencing the use of ODSs.

2. Assignment of responsibilities within their respective organization.

3. Description of specific projects for the elimination, recycling or substitution of ODSs with estimates on emission/use reduction, cost and completion date.

(c) Develop and evaluate on a periodic basis reserve requirements for cognizant applications of ODSs and coordinate with COMNAVSUPSYSCOM. Requirements will only be developed for mission critical uses.

(d) Revise preventive and corrective maintenance procedures, for which they are the cognizant activity, to incorporate the use of ODS recovery and recycling units.

(e) Revise military specifications and manuals, for which they are the cognizant activity, to reduce or eliminate references to the use of ODSs.

(f) Participate in ODS consortiums, conferences and technology transfer to ensure Navy's interests are identified and satisfied.

(g) Submit a semi-annual report by letter to CNO (N45) by not later than 1 January and 1 July on the status of elimination of ODSs in specifications and standards for which the Echelon 2 command is the cognizant authority. The report will include: (1) the total number of specifications and standards containing ODSs over which they have cognizant authority from the date of this instruction, (2) the number of specifications and standards which reference an ODS that were revised to remove the reference to ODSs during this period, (3) total number of specifications and standards which reference an ODS that have been changed from the date of this instruction, and (4) any impediments to removing ODSs from specifications or standards and actions taken to resolve impediments. For those Echelon 2 commands not holding cognizant authority over any specifications or standards a one-time negative report is required.

(b) Review all requests from subordinate activities for waivers to this instruction and forward recommendations to Deputy Chief of Naval Operations (Logistics)(DCNO(Logs)).

(2) COMNAVSEASYSCOM will:

(a) Serve as the lead technical Echelon 2 command to coordinate technical ODSs programs of the other Echelon 2 commands to ensure all Navy wide common interests and concerns are addressed.

(b) Conduct quarterly program status meetings with the major claimants to gather and disseminate information and determine progress made by Navy activities.

(c) Maintain Navy's CFC/Halon Information Clearinghouse (CHIC) for use by all Navy activities.

(d) Coordinate cognizant R&D activities with other services and government agencies.

(3) COMNAVSUPSYSCOM will:

(a) Serve as the Navy liaison with DLA on matters pertaining to the establishment, maintenance and operation of the ODS reserve.

(b) Provide annually by 15 March of each year, a report to CNO (N4) on Navy demand of ODSs per enclosure (2) (DD 2533 applies).

(c) Revise, as necessary, acquisition instructions and guidance to include additional ODSs as they are regulated by the EPA.

(d) Assist Echelon 2 commands with the ODS recycling and reclamation program.

(e) Incorporate into the Navy supply system, refrigerant and halon recovery and recycling equipment and appropriate spare parts as soon as possible after contract award and notification by other Echelon 2 commands.

(4) Commander, Naval Facilities Engineering Command (COMNAVFACENGCOM) will:

(a) Develop, and revise as necessary, guidance for Navy shore activities on requirements for air conditioning and fire protection systems.

(b) Develop a guide scope for analyzing shore-based HVAC&R equipment and providing recommendations to commanding officers on the most cost effective manner of replacing, converting, or retrofitting existing HVAC&R systems.

(5) Chief, Bureau of Medicine and Surgery will provide workplace hazard evaluations and health risk assessments for ODS substitutes, which are proposed for use in industrial operations and Navy-unique working environments, as requested by other Echelon 2 commands.

(6) Chief of Naval Education and Training will:

(a) Develop training procedures using safe alternatives to ODSs where consistent with operational requirements without degradation to mission effectiveness.

(b) Incorporate ODS issues into hazardous material control and management training.

(c) Incorporate ODS issues into enlisted class A and class C schools and officer training courses as appropriate.

(d) Incorporate training in the proper use of ODS recovery and recycling equipment into HVAC&R technician curriculums.

(e) Ensure training in the proper use of ODS recovery and recycling equipment is incorporated into the Navy Environmental Training Plan.

c. Commanding Officers

(1) Commanding officers ashore and afloat will:

(a) Report demand of ODSs purchased outside of the Naval Supply System on DD 2530 enclosure (2). Annual report will be submitted not later than 1 February of each year to COMNAVSUPSYSCOM (SUP 45) with an information copy to the chain of command.

(b) Implement appropriate ODSs procurement guidance as established by COMNAVSUPSYSCOM, COMNAVFACENGCOM, and other Echelon 2 commands.

(c) Ensure ODSs are included in the "authorized HM use list."

(d) Establish practices and procedures internally to reduce emissions of ODSs as much as possible.

(e) Provide resources (tuition, travel, per diem, etc.) for training refrigerant technicians on recovery and recycling equipment and ensure compliance with applicable certification requirements.

(f) Submit requests for waivers to any of the mandatory provisions of this policy via the chain of command to the DCNO(Logs). Statutory requirements may not be waived.

(2) Commanding officers ashore will:

(a) Develop and implement an ODS phase out plan to eliminate use of non-mission critical Class I ODSs by 1 January 2000.

(b) Approve and submit plans to claimants for review and funding in the POM cycle.

9. Reports. The following reports are approved for 3 years from the date of this instruction:

Report Symbol	Title	Paragraph
OPNAV 5090-7	Status of Elimination of ODSs in Specifications and Standards	5b(1)(g)
OPNAV 5090-8	Ozone Depleting Substances Annual Report	5b(3)(b) & 5c(1)(2)

10. Form. DD 2530 (12-92), Ozone Depleting Chemicals Annual Report, is provided as enclosure (2).

S. R. ARTHUR
Vice Chief of Naval Operations

Distribution:
SNDL Parts 1 and 2

Chief of Naval Operations
Code N09B34
2000 Navy Pentagon
Washington DC 20350-2000 (287 copies)

SECNAV/OPNAV Directives Control Office
Washington Navy Yard Building 200
901 M Street SE
Washington DC 20374-5074 (60 copies)

Stocked:
Naval Aviation Supply Office
ASO Code 103
5801 Tabor Avenue
Philadelphia PA 19120-5099 (300 copies)

LIST OF CLASS I AND CLASS II CHEMICALS

CLASS II CHEMICAL AGENTS HCFC - Hydrochlorofluorocarbons

		ODP
HCFC-21	Dichlorofluoromethane	
HCFC-22	Chlorodifluoromethane	
HCFC-31	Chlorofluoromethane	0.05
HCFC-121	Tetrachlorofluoroethane	
HCFC-122	Trichlorodifluoroethane	
HCFC-123	Dichlorotrifluoroethane	
HCFC-124	Chlorotetrafluoroethane	0.02
HCFC-131	Trichlorofluoroethane	0.02
HCFC-132	Dichlorodifluoroethane	
HCFC-133	Chlorotrifluoroethane	
HCFC-141 b	Dichlorofluoroethane	
HCFC-142 b	Chlorodifluoroethane	0.1
HCFC-221	Hexachlorofluoropropane	0.06
HCFC-222	Pentachlorodifluoropropane	
HCFC-223	Tetrachlorotrifluoropropane	
HCFC-224	Trichlorotetrafluoropropane	
HCFC-225	Dichloropentafluoropropane	
HCFC-226	Chlorohexafluoropropane	
HCFC-231	Pentachlorofluoropropane	
HCFC-232	Tetrachlorodifluoropropane	
HCFC-233	Trichlorotrifluoropropane	
HCFC-234	Dichlorotetrafluoropropane	
HCFC-235	Chloropentafluoropropane	
HCFC-241	Tetrachlorofluoropropane	
HCFC-242	Trichlorodifluoropropane	
HCFC-243	Dichlorotrifluoropropane	
HCFC-244	Chlorotetrafluoropropane	
HCFC-251	Trichlorofluoropropane	
HCFC-252	Dichlorodifluoropropane	
HCFC-253	Chlorotrifluoropropane	
HCFC-261	Dichlorofluoropropane	
HCFC-262	Chlorodifluoropropane	
HCFC-271	Chlorofluoropropane	

1. Public Law 101-549 15 November 1990 Clean Air Act Amendments, Title VI

2. Ozone Depletion Potential as stated in §602 of the Clean Air Act Amendments

3. Azeotropic mixture of CFC-12 and Hydrofluorocarbon (HFC) 152a.

4. Azeotropic mixture of CFC-115 and HCFC-22

5. Azeotropic mixture of CFC-113 and HFC-23

Enclosure 1

OZONE DEPLETING CHEMICALS ANNUAL REPORT

1. COMPONENT	REPORT CONTROL SYMBOL 2. CALENDAR YEAR

3. QUANTITIES (in thousands of pounds)

CHEMICAL a	PROCUREMENT (DLA USE ONLY) b	RESERVE QUANTITY (DLA USE ONLY) c	COMPONENT DEMAND (INCLUDING LOCAL PURCHASES) d	NEW SYSTEM ACQUISITIONS e
(1) CFC-11				
(2) CFC-12				
(3) CFC-13				
(4) CFC-111				
(5) CFC-114				
(6) CFC-115				
(7) R-500				
(8) R-502				
(9) R-503				
(10) HALON 1211				
(11) HALON 1301				
(12) HALON 2402				
(13) METHYL CHLOROFORM				
(14) CARBON TETRACHLORIDE				
(15) HCFC-22				
(16) HCFC-123				
(17) HCFC-141B				

DD Form 2510, DEC 92 PREVIOUS EDITION IS OBSOLETE

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON DC 20362 5101

IN REPLY REFER TO
9502
OPR: 05R
Ser 05R/186
27 July 1990

From: Commander, Naval Sea Systems Command
To: Commander, David Taylor Research Center (Code 2722)

Subj: FACILITY FOR NAVY CHLOROFLUOROCARBON (CFC) REFRIGERANTS PROJECT; JUSTIFICATION FOR

Ref: (a) SECNAVINST 5090.5 of 20 November 1989, "Management and Elimination of Ozone Depleting Substances"
(b) OPNAVINST 5090.2 of 22 January 1990, "Management of Ozone Depleting Substances"
(c) U.S. Navy's Chlorofluorocarbon (CFC)/Halon Program Plan of October, 1989 (Revised December, 1989)

1. References (a) and (b) direct the Navy to identify and develop suitable substitute chemicals and alternative technologies to accelerate the phase-out of the Navy's use of ozone depleting substances (chlorinated fluorocarbons used by the Navy as shipboard refrigerants and solvents). NAVSEA is now executing the Navy's CFC/Halon Program detailed in the CNO-approved Program Plan (reference (c)).

2. As the Navy's primary research and development center for shipboard auxiliary and environmental control equipment, the David Taylor Research Center will execute the majority of substitute refrigerant and alternative technology research and development as required by references (a) and (b) and as described in the Refrigerants Project section of reference (c).

3. The accelerated timetable for a complete phase-out of CFCs mandated by the Montreal Protocol re-negotiations and U.S. EPA regulations create an urgent and unanticipated requirement for the expansion of DTRC test facilities. This expansion is necessary to accomplish the R&D which will be required to ensure a timely transition of new technology to shipboard air conditioning and refrigeration equipment.

4. NAVSEA POC is Art Smookler, 05R32, (703) 602-8841/2

JOHN FREUND
By direction

BSAT REQUEST FOR CLARIFICATION -- DJD 024

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 024 Date sent: 12 Dec 94
Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Estimate the one-time moving costs of relocating (not replicating) the non-CFC facilities from Annapolis to NSWC-Philadelphia. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly, assembly and calibration costs separately.

I need this information NLT 1400, 13 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R.E. METREY	01	(301) 227-1628	13 DEC 94
Name	Code	Commercial Phone #	Date

1. **QUESTION: Estimate the one-time moving costs of relocating (not replicating) the non-CFC facilities from Annapolis to NSWC-Philadelphia. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly <disassembly>, assembly and calibration costs separately.**

Reponse: The total weight of mission equipment being moved in a relocation from NSWC-Annapolis to NSWC-Philadelphia is estimated at 450 tons and there are no anticipated special shipping costs. The one time moving costs of $11.2M is broken down as $700K disassembly, $5900K reassembly and $4600K calibration as discussed below.

Some background information and definitions may be helpful in clearing up any confusion caused by the numerous questions and answers on this topic (DJD 014, DJD 016, DJD 017 and DJD 023).

It is important to distinguish between the **non-CFC facilities** at NSWC Annapolis and the **shipboard cooling systems** installed at Annapolis in these facilities.

The following shipboard cooling systems are installed and operational in the Annapolis facilities: CG 47, DDG 51, SSN 21, SSN 688, SSBN 726, CVN 68, LHD 1 and LSD 44. The following are in process: DD 963, DDG 993, AOE 6, and LCC 19. The total replacement value of this shipboard full scale equipment is $9M.

Retargetting "in process" AC plants for installation at a "relocated" NSWC-Philadelphia site could potentially save some baselining costs of approximately $1M. However, no facility costs would be saved since the facilities to accommodate the installed and planned equipment are currently in place and operational in Annapolis. Also, such a retargetting would result in an additional delay of more than one year in program execution for these systems based on a mismatch between anticipated equipment delivery schedule and the Philadelphia facility availability.

It is presumed in all the relocation responses that the shipboard cooling equipment would be relocated. Only in the one replication response (DJD 023 of 9 December 1994 Question 3) would this equipment be replaced. The $9M equipment replacement cost is for the equipment alone and does not include installation, debugging, instrumentation, calibration, and baseline data generation which has been completed or is in the process of being generated.

The non-CFC facilities consist of three functionally separate facilities -refrigeration plant development facility, centrifugal compressor development facility (CCDF), and the shipboard AC plant development facilities which are also referred to as cooling system dynamometers (CSD). All of these facilities are integrated sharing cooling water, instrumentation and personnel. These facilities were custom designed by NSWC Annapolis engineers for the unique Annapolis environment (Severn River heat rejection and for the space/locations made available) and then constructed on site by NSWC Annapolis shop personnel.

The CCDF and CSD are absolutely essential for the R&D process to succeed in the development and qualification of modifications for shipboard cooling systems to operate with environmentally acceptable refrigerants. The CCDF allows precision measurement of centrifugal compressor performance in the actual fluid. This performance cannot be measured on the cooling system because of the compact design of these plants which produces flow distortions entering the compressor. The CSDs create and maintain a precise cooling load (capacity) for the plant at a precise head (condenser water entering temperature) condition. These conditions must be created and maintained for extended periods and varied in precise steps to fully document the performance of the system with the current refrigerant and then with the replacement refrigerant (after modification of the system) to ensure that the same performance, power consumption and acoustic signature is being produced by the modified plant. There are six duplex (capable of serving two plants at independent conditions) CSDs at Annapolis.

Each of these facilities consists of certain key components (heat exchangers, pumps, flow measuring equipment and other instrumentation, control valves, auxiliary cooling plants) and a significant amount of piping custom fitted to the installation of each facility. It is presumed that some of the key components might be relocated but the piping systems would be scrapped and refitted at the new location. Many of the key components would also be unsuitable for the new location since they were designed for the unique characteristics of the Annapolis location, i.e. the heat exchangers were designed for Severn River water cooling whereas all of the alternate locations identified in prior questions would utilize a cooling tower. Environmental factors at NSWC-Philadelphia require water tower cooling at that site also. The pumps were selected for the layout and location as installed at Annapolis. It is impossible to determine if the current pumps would be useful in the new location, so it is presumed that they would be replaced. In essence, relocation of the facilities is almost equivalent to replication of the facilities. (Again these are the facilities, not the shipboard cooling systems).

The previously cited $11.2M relocation cost is based on the actual experience of NSWC-Annapolis in this effort and is broken down as:

Disassembly: 700K

- Disconnect AC plants and salvage useful equipment for relocation -(700K)

Reassembly: 5,900K

- Construct six CSDs at new location - (2,500K)
- Install 12 AC plants at new location - (2,400K)
- Construct CCDF at new location - (1,000K)

Calibration: 4,600K

- Instrument and calibrate AC plants at new location - (1,200K)
- Baseline the performance of AC plants at new location - (2,400K)
- Calibrate and baseline CCDF facility - (1,000K)

Total: 11,200K

In the replication question (DJD 023), the only difference in cost (besides the shipboard cooling system acquisition cost) is the savings of $700K in combined disconnect and salvaging cost. However, the estimated replacement cost of the key components that would not be relocated in a replication scenario would cancel this savings.

All of the relocation scenarios will result in a minimum two year delay in program execution as the current facilities are dismantled and replaced at the new location. As stated in our previous answers to DJD 014 of 6 December 1994 Question 3, this will have an adverse impact on the CFC stockpile and on fleet readiness and combat capability. A similar adverse impact would result if the in process AC plants were retargetted to NSWC-Philadelphia as discussed above.

The replication response (DJD 023) wherein the facilities and the shipboard cooling equipment are constructed at the new location theoretically will not result in any program delay. In reality however, the program schedule is likely to suffer because of the anticipated loss of skilled and experienced R&D personnel now executing the program. Replication itself, as discussed in DJD 023, will require a minimum three years to accomplish.

Previous answers to this and similar questions are summarized below:

Reference	Destination	Type	Cost	Comments
DJD 014 6 December 1994 Question 3	Contractor (York International)	Relocation	$11.2M	Assumes adequate building and cooling tower capability.
DJD 016 7 December 1994 Question 2	NSWC Carderock	Relocation	$21.2M	Includes cost of building and cooling tower ($10M)
DJD 017 7 December 1994 Question 1	Shipyard	Relocation	$11.2M	Adequate cooling tower and building assumed.
DJD 023 9 December 1994 Question 3	NSWC Philadelphia	Replication	$20.2M	Includes replacement cost of shipboard equipment ($9M). Assumes adequate cooling tower and building.'

BSAT REQUEST FOR CLARIFICATION – DJD 025

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 025
Activity: NSWC Carderock Div (Annapolis) Date sent: 13 Dec 94

ATTN: Jim Logan or Judith Atkins Fax: 703-602-8541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Your response to RFC DJD 010 estimated the cost to replicate the Magnetic Fields Lab at NSWC-Carderock at $14.5 M. Estimate the one-time moving costs of relocating the Magnetic Fields Laboratory from Annapolis to NSWC-Carderock. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly, assembly and calibration costs separately.

2. Your response to RFC DJD 010 estimated the cost to replicate the Magnetic Silencing Facility at NSWC-Carderock at $5.5 M. Estimate the one-time moving costs of relocating the Magnetic Silencing Facility from White Oak to NSWC-Carderock. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly, assembly and calibration costs separately.

I need this information NLT 1600, 13 December.

Don DeYoung (703) 681-0478

NOTE: ~~This information is~~ needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R.E. METREY	01	(301) 227-1628	13 DEC 94
Name	Code	Commercial Phone #	Date

TOTAL P.02

Scenario 3-20-0198-035A
Reference: Control # DJD 025
Received 1015 HRS 13 DEC 1994
Due: 1600 HRS 13 DEC 1994

1. **Your response to RFC DJD 010 estimated the cost to replicate the Magnetic Fields Lab at NSWC-Carderock at $14.5 M. Estimate the one time moving costs of relocating the Magnetic Fields Laboratory from Annapolis to NSWC-Carderock. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly <disassembly>, assembly, and recalibration costs separately.**

Response: The one time moving costs of relocating the Magnetic Fields Laboratory from Annapolis to NSWC-Carderock are shown in the Table below.

Amount of Mission Equipment	65 tons
Cost of Disassembly	$0.3 M
Cost of Non-Magnetic Building	$7.0 M
Cost of Assembly	$3.8 M
Cost of Recalibration	$0.8 M

The disassembly cost includes special packing where required. The cost of the non-magnetic building includes site preparation. The assembly cost includes the cost for new equipment (that is not practical to relocate) and set up costs.

2. **Your response to RFC DJD 010 estimated the cost to replicate the Magnetic Silencing Facility at NSWC-Carderock at $5.5 M. Estimate the one time moving costs of relocating the Magnetic Silencing Facility from White Oak to NSWC-Carderock. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly <disassembly>, assembly, and recalibration costs separately.**

Response: The response to this question is more appropriately directed to the White Oak Detachment, Dahlgren Division, Naval Surface Warfare Center per telephone conversation between BSAT (DeYoung) and NSWC-CD (Metrey).

This page left intentionally blank.

BSAT REQUEST FOR CLARIFICATION – DJD 026

REQU... R CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 026
Activity: NSWC Cardorock Div (Annapolis)

Date sent: 13 Dec 94

ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-26-0198-035 and 035A:

RE: Response to DJD 025

1. Cost of Non-Magnetic Building: Report the amount of space (in square feet) necessary for the non-magnetic building.

2. Cost of Assembly: Breakout the cost for new equipment and the set-up costs separately. Also, who will perform the assembly?

I need this information NLT 1400, 14 December.

Don DeYoung (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R.E. METREY	01	(301) 227-1628	14DEC94
Name	Code	Commercial Phone #	Date

Scenario 3-20-0198-035A
Reference: Control # DJD 026
Received 0900 HRS 14 DEC 1994
Due: 1400 HRS 14 DEC 1994

1. Cost of Non-Magnetic Building: **Report the amount of space (in square feet) necessary for the non-magnetic building.**

Response:

The response to this question is based upon buildings to support consolidation of Annapolis and White Oak magnetic silencing capabilities at Carderock. The total floor area required is 19,175 square feet. This area is comprised of two buildings - a non-magnetic test building (8,400 sq ft) and an instrumentation building (10,875 sq ft). Two buildings are required because the testing must be conducted in a "magnetically clean" environment and the instrumentation required to conduct the measurements create significant magnetic fields.

The test building must be constructed of non-magnetic materials (i.e., wood, concrete, aluminum, brass, and copper) and fasteners so as not to influence the magnetic measurements being taken. The building must have four (4) levels on which magnetic sensors are deployed. The current test floor is 42 FT x 50 FT with an overhead clearance of 20 FT. The test floor is the top floor and must be accessible for loading and unloading large test items (such as a diesel generator). The test floor must be capable of withstanding at least forty-four (44) tons of dynamic load. The entrance door to the test floor must be at least 12 FT wide by 14 FT tall. Each of the three (3) lower floors must have an overhead height of 10 FT to accommodate magnetic field measurements to a level of 30 FT below the item being tested. The site of the test building must be in a magnetically clean area (no large pieces of ferrous material located within a sphere of radius 300 FT centered on the test building). No vehicular traffic can pass through any portion of the sphere during testing. The test building must have provisions to accommodate the following:

- supply of fuel for engines being tested
- provisions for the removal of engine exhaust
- supply of cooling water for water cooled systems/components
- electrical power supplies covering the following ranges:
  0 - 2,400 amperes
  3 phase
  60 Hz and 400 Hz
  115 volts, 220 volts, and 440 volts

to support motors, load banks, and water brakes for engines and generators undergoing testing.

The instrumentation building must be located outside the 300 FT sphere centered on the test building but close enough so that the equipment being tested (such as diesel engines) can be operated safely from a remote location. The instrumentation building has been sized to consolidate the areas listed below that are currently accommodated in several individual buildings.

general laboratory	5,250 sq ft
instrumentation	2,250 sq ft
magnetic model storage	2,000 sq ft
staging area	825 sq ft
sensors laboratory	550 sq ft

2. <u>Cost of Assembly</u>: **Breakout the cost for new equipment and the set-up costs separately. Also, who will perform the assembly?**

Response:

Cost of New Equipment	$ 2.4 M
Set-up Cost - Contract / Labor	$ 0.2 M
Set-up Cost - Installation	$ 1.2 M

The new equipment cost is based upon a detailed study conducted in the Spring of FY 93 in preparation for moving the Magnetic Fields Laboratory as part of BRAC-93. It was determined then that the following equipment was not practical to move:

- Direct Current power supplies
- Water rheostats
- Ambient field coil systems with power supplies
- Quad cables
- Computer equipment
- Miscellaneous equipment including: moisture sensor, ladders, spare cables, spare rope, drill presses, grinders, isolation transformers, tanks, exhaust pipes, engine control panels, etc.

The set-up costs consist of labor costs associated with the procurement new equipment.

The installation costs include the set-up and integration of the relocated and new equipment. This work will be done by Carderock Division personnel (transferred from both Annapolis and White Oak).

Document Separator

Code 80 copy
4/13/95

D R A F T

1. COMPONENT NAVY	FY 96 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 13 Apr 95
3. INSTALLATION AND LOCATION / UIC: N00167 Naval Surface Warfare Center, Carderock Division, Philadelphia, PA	4. PROJECT TITLE ELECTRICAL POWER SYSTEMS R&D FACILITY	

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. COST ($000)
	317-20	P-1395U	5,800

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
ELECTRICAL POWER SYSTEMS R&D FACILITY	SSF	79,379	--	4,002
BUILDING ALTERATIONS	SF	79,379	42.47	(3,371)
BUILT-IN EQUIPMENT	LS	--	--	(512)
INFORMATION SYSTEMS	LS	--	--	(119)
SUPPORTING FACILITIES		--	--	1,169
ELECTRICAL UTILITIES	LS	--	--	(1,073)
MECHANICAL UTILITIES	LS	--	--	(6)
PAVING AND SITE IMPROVEMENTS	LS	--	--	(90)
SUBTOTAL		--	--	5,171
CONTINGENCY (5.0%)		--	--	259
TOTAL CONTRACT COST		--	--	5,430
SUPERVISION, INSPECTION & OVERHEAD (6.0%)		--	--	326
TOTAL REQUEST		--	--	5,756
TOTAL REQUEST (ROUNDED)	LS	--	--	5,800
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS			(NON-ADD)	(369)

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Modify existing facilities to accomodate an Electrical Power Systems R&D Facility. Work includes upgrading electrical power, extending cooling water loop, strengthening floors, construction of interior labs and bays to include heating, ventilattion, lighting, bridge,cranes and other necessary alterations, connection to fuel systems, exhaust an cooling water, and construction of a Secure Compartmented Information Facility (SCIF).

11. REQUIREMENT: 141,745 ADEQUATE: 4,9135 SUBSTANDARD: (-0-)

PROJECT: Modiy 79,379 SF of existing facilities to house Electrical Power Systems R&D Facility.

REQUIREMENT: Project is required to house engineering and laboratory functions being transfered from Annapolis to Philadelphia site.

CURRENT SITUATION: The Electrical Power Systems R&D Facility is currently located at the Annapolis site. Consolidation of these functions to the Philadelphia site is mandated by BRAC.

IMPACT IF NOT PROVIDED: If this project is not provided, relocation of the Electrical Power Systems R&D Facility to the Philadelphia site cannot be accomplished due to lack of adequate facilitiesto house them.

Elec Propulsion, Elec. Power, Pulse Power

(CONTINUED ON DD 1391C)

77H
534

My copy Source: Annapolis Community 4/10/95

Code 50 Copy
4/13/95

DRAFT

1. COMPONENT NAVY	FY 96 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 13 Apr 95

3. INSTALLATION AND LOCATION / UIC: N00167	4. PROJECT TITLE
Naval Surface Warfare Center, Carderock Division, Philadelphia, PA	ACOUSTICS AND FLUID DYNAMICS FACILITY

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. COST ($000)
	320-10	P-1295U	8,500

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
ACOUSTICS AND FLUID DYNAMICS FACILITY	SF	52,298	--	7,212
BUILDING ALTERATIONS	SF	40,908	52.72	(2,156)
BUILDING ADDITIONS	SF	11,390	139.16	1,585
INSTALLED EQUIPMENT	LS	--	--	(3,385)
INFORMATION SYSTEMS	LS	--	--	(86)
SUPPORTING FACILITIES		--	--	463
ELECTRICAL UTILITIES	LS	--	--	(329)
MECHANICAL UTILITIES	LS	--	--	(17)
PAVING AND SITE IMPROVEMENTS	LS	--	--	(117)
SUBTOTAL		--	--	7,675
CONTINGENCY (5.0%)		--	--	384
TOTAL CONTRACT COST		--	--	8,059
SUPERVISION, INSPECTION & OVERHEAD (6.0%)		--	--	484
TOTAL REQUEST		--	--	8,543
TOTAL REQUEST (ROUNDED)		--	--	8,500
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	LS		(NON-ADD)	

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Modify existing facilities to accomodate Acoustics and Fluid Dynamics Laboratory: Work includes installation of machinery foundations, interior partitions and doors; modification of heating and air conditionsing systems, lighting, power, computer communicatins and telephone systems, fire alarm an surpression systems in two existing buildings. Construct new Anechoic Test Facility: Work includes concrete foundations, concrete block walls, built-up roof, interior partitions, special anechoic wall and ceiling treatment, bridge crane and pressure tank installation, heating, ventilation and air conditioning systems, communications and other building systems.

11. REQUIREMENT: 117,341 **ADEQUATE:** 5,976 **SUBSTANDARD:** (-0-)

PROJECT: Modiy 40,908 SF of existing facilities, and construct 11,390 SF to house Acoustics and Fluid Dynamics Facility.

REQUIREMENT: Project is required to house engineering personnel and laboratory functions being transfered from Annapolis to Philadelphia site.

CURRENT SITUATION: The Acoustics and Fluid Dynamics Facilitiy is currently located at the Annapolis site. Consolidation of these functions to the Philadelphia site is mandated by BRAC.

IMPACT IF NOT PROVIDED: If this project is not provided, relocation of the Acoustics and Fluid Dynamics Facility to the Philadelphia site cannot be accomplished due to lack of adequate faciliites to house them.

Anechoic baffing, separated floor
Machinery Accous Silencing

534

(CONTINUED ON DD 1391C)

DD FORM 1 DEC 76 1391

Less $2.2 M w/o HP air (Submarine dynamics)

Code 80 Copy
4/13/95

D R A F T

1. COMPONENT NAVY	FY 96 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 13 Apr 95

3. INSTALLATION AND LOCATION / UIC: N00167	4. PROJECT TITLE
Naval Surface Warfare Center, Carderock Division, Philadelphia, PA	ADVANCED MACHINERY SYSTEMS R&D FACILITY

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. COST ($000)
	313-20	P-1195U	6,200

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
ADVANCED MACHINERY SYSTEMS R&D FACILITY	SF	94,058	--	5,096
BUILDING ALTERATIONS	SF	94,058	43.30	(4,072)
BUILT-IN EQUIPMENT	LS	--	--	(852)
INFORMATION SYSTEMS	LS	--	--	(172)
SUPPORTING FACILITIES		--	--	514
ELECTRICAL UTILITIES	LS	--	--	(333)
MECHANICAL UTILITIES	LS	--	--	(6)
PAVING AND SITE IMPROVEMENTS	LS	--	--	(175)
SUBTOTAL		--	--	5,610
CONTINGENCY (5.0%)		--	--	281
TOTAL CONTRACT COST		--	--	5,891
SUPERVISION, INSPECTION & OVERHEAD (6.0%)		--	--	353
TOTAL REQUEST		--	--	6,244
TOTAL REQUEST (ROUNDED)		--	--	6,200
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS			(NON-ADD)	

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Modify existing facilities to accomodate Advanced Machinery Systems Laboratory. This project will modify and alter portions of buildings 633 and 1000. Work in building 633 includes installation of machinery foundations, partitions, doors; modification of heating and air conditioning systems, lighting, power, computer communications and telephone systems for the propulsion systems lab, auxiliary machinery systems lab, non-CFC development and testing lab, and engineering office space. Work in building 1000 will modify existing spaces into engineering office spaces and light labs for the advanced machinery systems lab, pulse power, and advanced electric propulsion lab.

11. REQUIREMENT: 94,058 ADEQUATE: 64,067 SUBSTANDARD: ( )

PROJECT: Modify 110,904 SF of existing facilities to house Advanced Machinery Systems R&D Laboratory.

REQUIREMENT: Project is required to house engineering and laboratory functions being transfered to Philadelphia.

CURRENT SITUATION: The Advanced Machinery Systems R&D Laboratory is currently located at the Annapolis site. Consolidation of these functions to the Philadelphia site is mandated by BRAC.

IMPACT IF NOT PROVIDED: If this project is not provided, relocation of the Advanced Machinery Systems R&D Laboratory to the Philadelphia site cannot be accomplished due to lack of adequate facilities to house them.

Adv Propulsion, (shaft line) ~~auxiliaries~~
non - CFC
Adv. auxiliary

(CONTINUED ON DD 1391C)

Code 80 Copy
4/13/95

1. COMPONENT NAVY	FY 96 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 13 Apr 95

3. INSTALLATION AND LOCATION / UIC: N00167	4. PROJECT TITLE
Naval Surface Warfare Center, Carderock Division, David Taylor Model Basin, Bethesda, MD 20084-5000	MAGNETIC FIELDS FACILITY

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. COST ($000)
	317-20	P-995U	~~8,300~~ 6,200

per Carderock Engineer (EAG)

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
MAGNETIC FIELDS LABORATORY	SF	45,036	--	7,095
BUILDING	SF	45,036	136.90	(6,165)
BUILT-IN EQUIPMENT	LS	--	--	(915)
INFORMATION SYSTEMS	LS	--	--	(15)
SUPPORTING FACILITIES		--	--	406
ELECTRICAL UTILITIES	LS	--	--	(225)
MECHANICAL UTILITIES	LS	--	--	(114)
PAVING AND SITE IMPROVEMENTS	LS	--	--	(67)
SUBTOTAL		--	--	7,501
CONTINGENCY (5.0%)		--	--	375
TOTAL CONTRACT COST		--	--	7,876
SUPERVISION, INSPECTION & OVERHEAD (6.0%)		--	--	473
TOTAL REQUEST		--	--	8,349
TOTAL REQUEST (ROUNDED)		--	--	8,300
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS			(NON-ADD)	

10. DESCRIPTION OF PROPOSED CONSTRUCTION

The primary facility will consist of a cluster of as many as four separate buildings, each containing a specialized portion of the magnetic fields research, development and testing program. Some of the facilities will have very special construction and material requirements and others will be standard building construction typical of research labs or offices. It is necessary that the facility be located in a remote location within the Carderock site, since the presence, or even proximity of materials having a magnetic characteristic will affect the testing.

11. REQUIREMENT: 45,036 ADEQUATE: -0- SUBSTANDARD: (-0-)

PROJECT: Construct a 45,036 SF Magnetic Fields Laboratory.

REQUIREMENT: This building is required to house engineering personnel and laboratory functions being transfered from Annapolis and White Oak to the Carderock site.

CURRENT SITUATION: The Electromagnetic Signature Control Branch is currently located at the Annapolis and White Oak sites. Consolidation of these functions at the Carderock site is mandated by BRAC.

IMPACT IF NOT PROVIDED: If this project is not provided, consolidation of the Electromagnetic Signature Control Branch at the Carderock site cannot be accomplished due to lack of adequate existing facilities to house them. The impact would result in the elimination of the Navy's capability and corporate memory in electromagnetic (EM) silencing. The execution of EM silencing programs will also be severely impacted. It would take up to 10 - 15 years to build the knowledge base that now exists. The loss of facilities would eliminate all of the Navy's model and machinery measurements and would increase costs and risks due to expensive sea trial demonstrations.

(CONTINUED ON DD 1391C)

Document Separator

DAMD

THE DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION

EXECUTIVE CORRESPONDENCE TRACKING SYSTEM (ECTS) # 950613-33

FROM: HUTTEN, ROBERT W.	TO: EPSTEIN, DAVID
TITLE: DEP DIR FOR STRATEGIC PLANS	TITLE: NAVY GAO ANALYST
ORGANIZATION: DEF INFO SYSTEMS AGENCY	ORGANIZATION: DBCRC
INSTALLATION (s) DISCUSSED: JOINT SPECTRUM CENTER	

OFFICE OF THE CHAIRMAN	FYI	ACTION	INIT	COMMISSION MEMBERS	FYI	ACTION	INIT
CHAIRMAN DIXON				COMMISSIONER CORNELLA			
STAFF DIRECTOR	✓			COMMISSIONER COX			
EXECUTIVE DIRECTOR	✓			COMMISSIONER DAVIS			
GENERAL COUNSEL	✓			COMMISSIONER KLING			
MILITARY EXECUTIVE				COMMISSIONER MONTOYA			
				COMMISSIONER ROBLES			
DIR./CONGRESSIONAL LIAISON				COMMISSIONER STEELE			
DIR./COMMUNICATIONS				REVIEW AND ANALYSIS			
				DIRECTOR OF R & A	✓		
EXECUTIVE SECRETARIAT				ARMY TEAM LEADER			
				NAVY TEAM LEADER	✓		
DIRECTOR OF ADMINISTRATION				AIR FORCE TEAM LEADER			
CHIEF FINANCIAL OFFICER				INTERAGENCY TEAM LEADER	✓		
DIRECTOR OF TRAVEL				CROSS SERVICE TEAM LEADER			
DIR./INFORMATION SERVICES							

TYPE OF ACTION REQUIRED

	Prepare Reply for Chairman's Signature		Prepare Reply for Commissioner's Signature
	Prepare Reply for Staff Director's Signature		Prepare Direct Response
	ACTION: Offer Comments and/or Suggestions	✓	FYI

Subject/Remarks:

INFO REGARDING JSC CONTRACTOR LEASED FACILITY

Due Date:	Routing Date: 950613	Date Originated:	Mail Date:

DEFENSE INFORMATION SYSTEMS AGENCY
STRATEGIC PLANS AND POLICY DIRECTORATE
701 S. COURTHOUSE ROAD
ARLINGTON, VIRGINIA 22204-2199

IN REPLY REFER TO: Strategic Plans and Policy (D5)

Mr. David Epstein
Defense Base Closure and Realignment Commission
1700 N. Moore Street
Suite 1425
Arlington, Virginia 22209

950613-33

Dear Mr. Epstein:

The enclosure contains information that you requested from Ms. Anna Myers of the Joint Spectrum Center in Annapolis, Maryland.

If you have further questions, please contact, Ms. Jeanette Carter, the Defense Information Systems Agency's coordinator for Base Closure and Realignment, at 703-607-6762.

Sincerely,

Robert W. Hutten

ROBERT W. HUTTEN
Deputy Director for
Strategic Plans and Policy

Enclosure a/s

Copy to:
House of Representatives
United States Senate

JSC CONTRACTOR LEASED FACILITY 06-Jun-95

		FY95
COST OF CONTRACTOR LEASED FACILITY		
LEASE COSTS:		
Lease Cost of Contractor Facility		1.505
Taxes		0.116
	SUBTOTAL	1.621
OTHER COSTS ASSOCIATED WITH LEASED FACILITY		
Electricity		0.236
Water & Sewage		0.010
Trash Collection		0.008
Fire Insurance		0.005
Security Guard Force		0.116
Building maintenance, repairs, etc.		0.060
	SUBTOTAL	0.435
	TOTAL	2.056

TRAVEL BETWEEN LEASED FACILITY & NSWC FACILITY

COURIER BETWEEN BUILDINGS: (5 trips daily)		
Drivers		0.042
Vehicle lease		0.004
gas & maintenance		0.001
	SUBTOTAL	0.047

OTHER TRAVEL MADE BY EMPLOYEES BETWEEN BUILDINGS:
Total trips between buildings 5,445 per year
No. of miles RT between buildings 14 miles roundtrip
Approximately 76,230 miles/year
Takes Approximately 45 minutes for roundtrip

Estimated cost of travel between buildings:		
Mileage reimbursement @ .30/mile		0.023
Production time lost due to travel		0.143
	SUBTOTAL	0.166
TOTAL COST OF TRAVEL BETWEEN BLDGS		0.213

INFORMATION CONCERNING LEASE:
Current lease between IITRI and Furhman expires 30 Jun 95. IITRI has just been awarded the follow-on contract for JSC. Basic JSC contract period ends 30 Sep 98 and then there is an option for a 24 month extension. IITRI currently negotiating with landlord for new lease. Could be less than the above lease costs--should not be greater. Normally, there is a six month penality for breaking the lease. IITRI trying to negotiate a lease that if they give 6 months notice prior to 30 Sep 98, there would be no penality for breaking lease. IITRI tries to negotiate lease terms to coincide with contract with JSC.

Enclosure

Document Separator

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

To:
DAVE EPSTEIN

Fax: 703-696-0550

Pages 16 incl. cover

RESPONSE TO THE CITY OF PHILADELPHIA BRAC PRESENTATION MATERIAL 26 MAY 1995

ATTACHED RESPONSES ARE INCLUDED FOR:

- ELECTRIC POWER TECHNOLOGY FACILITY
- ADVANCED ELECTRIC PROPULSION FACILITY
- PULSE POWER FACILITY
- ADVANCED PROPULSION MACHINERY FACILITY
- MACHINERY ACOUSTIC SILENCING FACILITY
- NON-CFC LABORATORY FACILITY
- DEEP OCEAN MACHINERY & VEHICLE PRESSURE SIMULATION FACILITY

(NSWC/P, NAVSSES, AND PHILADELPHIA ALL REFER TO THE SAME LOCATION)

ELECTRIC POWER TECHNOLOGY FACILITY

Basic Proposal

• The Navy's strongest Machinery R&D thrush has been in the area of integrated machinery systems; the facility proximity proposed by Philadelphia precludes any effective integrated machinery evaluations.

• Philadelphia incorrectly indicates that specific programs supported by the Annapolis Electric Power Technology Facility are or were planned to be moved to Philadelphia; the mission of the Electric Power Technology Facility in the cited programs will continue, regardless of location independent of any full scale test or ISE function performed at Philadelphia.

• Philadelphia has no operational facilities which can be used to support any portion of the mission at the Annapolis Electric Power Technology Facility

Cost Summary

• The Philadelphia cost summary data did not meet the basic facility attributes or standard cost schedules agreed to by NSWCCD headquarters and were gross estimates rather than bottom up estimate based upon an accounting of each facility asset, purchase vs. relocate cost tradeoff, manhour and material estimates derived from a nationally recognized constructs cost estimates, and a detailed relocation plan incorporated schedule, resource availability and programmatic impact.

• Philadelphia's estimate of $16/sq. ft. for new construction of a 14,000 sq. ft. mezzanine and conversion of 8,000 sq. ft. covered storage is not reasonable.

Relocation Budget Justification

• The synergy cited by Philadelphia between the Annapolis Electric Power Technology Facility and the Philadelphia Electric Test Facility is unclear since the latter has no operational equipment.

• There is not opportunity to integrate the Annapolis and Philadelphia Fiber Optics Laboratories since the latter fully utilized the available space for communications networking and the former needs completely different equipment and working environment for sensors research.

• There is no opportunity to integrate the Annapolis and Philadelphia Machinery Controls Laboratories since the former fully utilizes the cited available space and the latter requires in excess of 10 times that space.

• The Philadelphia Crypto Custodial and Storage Room will require significant site preparation to meet the SCIF requirements at the Annapolis Electric Power Technology Facility vice the little to no preparation indicated by Philadelphia.

Electric Power Technology Facility Relocation

• $16/sq. ft is not reasonable for conversion of 8,000 sq. ft covered storage and new construction of 14,000 sq. ft. mezzanine.

• The mezzanine will preclude efficient installation and removal of units under test via the removable ceiling in the existing first floor industrial space.

• The synergy cited between Annapolis and Philadelphia test sites is unclear since Code 934, the Philadelphia site Electric Power System Branch, has no operational facilities; this branch is presently replicating portions of the Annapolis Electric Power Technology Facility.

• There are no programs presently at Annapolis which are scheduled (Pre-BRAC 95 or otherwise) to be moved to Building 77H. The functions of the Annapolis and Philadelphia tests sites in the cited programs is completely independent and there is no planned shift in the technical responsibilities under these programs.

• The technical capabilities of the Philadelphia Code 953 Fiber Optics Laboratory is directed toward communications networks and does not support the mission of the Annapolis Code 853 in the development of advanced fiber optic sensors.

• The Annapolis fiber optic sensor development work requires a vibration free floor for optical bench experiments, laser-fiber alignments, and instrument fabrication; the Philadelphia site is adjacent to a test facility for ship propulsion diesel engines and is unsuitable for such work.

Relocation Cost Summary

- Building alteration: $16/sq. ft is unreasonable given the scope of alternations cited (see above).
- Environmental: cannot be verified from Philadelphia site visits by Annapolis personnel to date.
- Site Clearout: cannot be verified from Philadelphia site visits by Annapolis personnel to date.
- Equipment Removal: cannot be estimated by tonnage as proposed by Philadelphia, Annapolis estimate was derived from a determination of special support (e.g. disassembly and preparation of large electrical machinery and delicate controls by a certified electrician) required by each facility item to be relocated.
- Shipping: Should be at a $500/ton rate based upon BRAC COBRA and NSWCCD headquarters direction for packing and shipping not including special requirements cited for equipment above; 502 tons of equipment was itemized by Annapolis which does not exist in an operational state at Philadelphia.

- Equipment Installation: There is no basis for Philadelphia's 10,000 hours gross estimate for installation. Annapolis estimate was based upon (1) a detailed determination of each facility asset to be relocated, (2) an evaluation of relocated vs. purchase based on cost for each asset, (3) manhour and material costs to install each asset from R.S. Means Co., Inc., a nationally recognized data base for construction cost estimation (4) a detailed relocation plan incorporating task manhours, material costs, target schedule, labor resources and impact on ongoing R&D projects.

- Calibration: There is no basis for Philadelphia's 2000 hours estimate for calibration; Annapolis estimate was determined from allocating hours to each facility asset requiring grooming or calibration based upon more than 500 corporate manyears experience with facility equipment.

- Standby time: Not estimated by Philadelphia will include such items as ....

- Other Electric Power: Annapolis cannot refute the 35,000 Philadelphia estimate for the this facility upgrade without a more through survey but the transformer and switchgear for a 3MVA feed is by estimated by Means at $124,000 which does not include the substation to facility distribution cable.

<u>Relocation Budget Justification</u>

• SCIF Facility: The Crypto Custodial and Storage Room will require significant site preparation vice the little or no site preparation cited.

- This room is not configured to accommodate the necessary mission of the Annapolis laboratory SCIF (1) secure office space conference room habitability (2) secure laboratory with appropriate utilities and heat rejection.

- Since the security of the area was previously handled by the shipyard, access control, alarms, masking systems will probably require significant rework.

- The construction details of a Crypto custodial and storage room do not necessarily meet DIAM 50-3 and may need modification.

Fiber Optics Laboratory - The Philadelphia Fiber Optics Communication Laboratory is apparently fully utilized and does not in any way support the mission of the Annapolis Fiber Optics Sensor Laboratory.

Machinery Controls Laboratory -The Philadelphia Machinery Controls Lab is at best 300 sq ft and would require major modifications to accomidate the 2300 sq ft Annapolis requirement.

Power Distribution Lab and Power Electronics Lab - Philadelphia's Electric Test Facility is 14,000 sq. ft. vice 36,000 sq. ft. This facility is not operational and must be superfluous since it will be completely supplanted the Annapolis Electric Power Technology Facility. The additional site preparation on the mezzanine amounts to complete new construction since no mezzanine exists. The 8000 sq. ft. storage area for load banks is needed for much more important work and will need significant site preparation. Annapolis load banks are placed outside on slabs to allow proper head rejection.

ADVANCED ELECTRIC PROPULSION DEVELOPMENT FACILITY

- The proposed .7 mile separation of the Electrical distribution and Electrical Propulsion Facilities at NSWC/P would NOT support integrated electric propulsion/distribution programs.

- Phila located the 11,700 sqft of 812 facilities on the upper decks of 1000. These decks will NOT support the 400 psf floor loading required by 5700 sqft of the facilities.

- Operation of the 3000 hp scaled PM Motor facility from the 25,000 hp ICR plant would be technically flawed and prohibitively expensive. There is no assurance at this time that the ICR facility will even become operational at this site.

- Zero Environmental cost cannot be verified to date through visits to Phila by Annapolis personnel.

- Cost Estimate Differences (NSWC/P is low compared to NSWC/A)

ITEM	$ Addition to NSWC/P Estimate
Pack/Ship 956 T vs 315 T @ $500 vs $400	+$336k
Equip Ripout not priced.	+$230k
No mat'l costs included	+$498k
Install. of 5 MVA pwr is $200k (per "1992 Means Elect Cost Data) vs $50k	+$150k
Phila included no Downtime losses	+$ 60k
Phila Assumed all Install could be done in-house ($33/hr) vs Annapolis est. that 3077 hrs would be contract ($60/hr)	+$ 83k
Total:	+$1,357k

- Phila's proposal relies heavily on the NSWC/P TOACC data Acq. & Anal. Sys. However, its processing hdwe is obsolete and labor intensive.

- Annapolis did NOT agree that R&D and ISE must be integrated. Its position has always been that the R&D organization must be kept physically and organizationally intact in order to maintain its functionality.

Pulsed Power R&D Facility

- The facility occupies a 4000 ft^2 metal framed building and consists of an integrated prime power system (2 MVA utility feeder and 4 MVA turbine generator), power conditioning system, isolated control and data acquisition system in a 160 ft^2shielded enclosure, high voltage grounding grid and the US Army Pulsed Power Module (a simulated pulsed power load). It is much, much more than two trailers in a storage shed as described by NAVSSES.

- If the Pulsed Power R&D Facility is located within a larger test cell area, additional EMI shielding must be installed around the pulsed power test site to prevent corruption of data and/or mis-operation of equipment in adjacent test areas. Shielding should be equivalent to the shielding used for the Pulsed Power Control and Data Acquisition Room. This 160 ft^2 room was recently installed and certified in Annapolis for $37K, or $231 per sq. ft. Based upon this actual cost, a comparable level of shielding for a 4000 sq. ft. area would cost $924K. This level of shielding is not required in Annapolis due to the fact that we have a separate, isolated building. The NAVSSES estimate of $28K to provide this shielding at NAVSSES is totally unfounded and unsupportable.

ADVANCED PROPULSION MACHINERY FACILITY

NSWC/P COST ESTIMATE DISCREPANCIES EXIST FOR THE FOLLOWING CRITICAL ELEMENTS:

* MILCONS required for foundations, environmental, lifting equipment, pipe and wire, etc.

* Planning, documentation, and schematics need to be accomplished before disassembly

* Foundation and machinery base design for the SSN 21 seal machine and shaftline

* Disassembly, preservation and special shipping support related to "fleet spare" thrust bearing, shaft and seal parts

* Oversize, overweight transport and rigging for shaft, thrust bearing, and seal housing assemblies

* Re-assembly, start-up, and recalibration time exceeds 12 months for complex installations

* Foundation impedance/structural damping surveys required for shaftline isolation from external vibration PLUS elimination of internal vibration to the test stand is a requirement

MACHINERY ACOUSTIC SILENCING FACILITY

- Electric power requirements are incorrect.
- Quiet ventilation fan work requires the ability to measure airborne levels as low as 0 dB. The Philadelphia 40 dB capability is not good enough for SSN-21, much less future ships.
- The Philadelphia enclosure does not provide required low frequency attenuation.
- Philadelphia was unable to make airborne measurements to the SSN-21 Main Propulsion Unit Specification.
- The ability to measure SSN-21 Main Propulsion Unit noise does not prove capability to measure auxiliary machinery noise.
- The Quiet Ventilation Facility routinely makes airborne noise measurements on SSN-21 ventilation fans that are 40 dB below the specification levels for the SSN-21 Main Propulsion Unit.
- The Quiet Pump Facility routinely makes airborne and structureborne measurements that are 30 dB below the specification levels for the SSN-21 Main Propulsion Unit.
- Auxiliary machinery controls the ship signature at low ship speeds when the main propulsion unit is operating at extremely low power levels.
- The facilities and cost estimates proposed by Philadelphia do not provide equivalent or adequate facilities to conduct quiet machinery research and development.

NON-CFC LABORATORY FACILITY

" Given NSWC-Philadelphia's extensive involvement in both the R&D and implementation..."

- NSWCP has never had an involvement in R&D nor is it in their Charter.

" US manufacturers have already designed and modified their equipment to comply with Non-CFC laws."

- False - The commercial manufacturers are working on converting the largest portion of their equipment as quickly as they can. The Navy business is a small part of the total market. Therefore, commercially developed fixes for the Navy will only occur after solutions have been completed for commercial units.

" ...US companies have been providing modifications to Navy air conditioning and refrigeration units tested at both Annapolis and Philadelphia."

- True - only for the small scale reciprocating compressors. The conversion package for the reciprocating compressor air conditioning plants was developed in Annapolis. Philadelphia has been tasked to implement the conversions.
- False - for the high capacity centrifugal compressors found on every Navy submarine and major surface combatant ship.

" Neither Annapolis nor Philadelphia are involved in basic Non-CFC R&D, but instead are redesigning commercial units..."

- False - The impellers have their roots in commercial units, but the rest of the unit(the housings, evaporator, condenser, controls, etc.) is unique to the Navy. This uniqueness is due to design differences due to either operating conditions, shock / vibration requirements, efficiency goals or acoustic requirements.

"Both sites have parity in terms of technical capability."

- Annapolis' technical capabilities emphasize an in-depth understanding of the physics and engineering principles that are being utilized in Naval machinery. This is in contrast to Philadelphia's basic understanding of the process that permits implementation of modification packages and limited repairs.

- There is also a basic difference in the level of the work accomplished. The environment in Annapolis encourages creativity, evidenced by 11 patents issued to members of the Non-CFC effort, and there are numerous advanced degrees. The majority of the Non-CFC conversion effort at Philadelphia is being conducted by individuals experienced with simply maintaining the fleet.

"For example, when the Non-CFC program was initiated, NSWC-Philadelphia was tasked with designing <u>and</u> installing a non-CFC reciprocating compressor."

- False - Philadelphia's role in the conversion to Non-CFC refrigerants has been to install the validated conversion package for reciprocating compressors. Philadelphia has never designed a compressor, reciprocating or centrifugal. The conversion package for the reciprocating compressor air conditioning plants was developed in Annapolis. This development included extensive investigations of the refrigerant, lubricant and evaluation of the conversion package. Philadelphia has taken those specifications and executed the procurements and begun making the installations in the Fleet.

"NSWC-Philadelphia has completed development of the reciprocating compressor, and fleet installation has begun."

- False - Annapolis conducted the development of the conversion package for the reciprocating compressors used by the Navy. A more accurate statement is "NSWC-Philadelphia has completed procurement of Annapolis specified conversion package for reciprocating compressor, and fleet installation has begun."

"NSWC- Annapolis, meanwhile, has not yet completed design of the centrifugal compressor."

- The design of centrifugal compressors is more complex than a reciprocating compressor. The reciprocating compressor is a positive displacement device which requires only a speed change or change in the number of cylinders to change capacity. A centrifugal compressor is a volumetric device in which the performance is determined by the characteristics of the gas as it passes through the various components. These characteristics are captured on what is known as a compressor map. The map is defined by parameters of flow and head coefficients, efficiency, compressor speed, refrigerant properties, stall, surge and inlet guide vane and variable geometry diffuser position. All of these parameters must be considered along with the characteristics of the heat exchangers of the unit when designing centrifugal compressors. It is obvious that Philadelphia does not understand the complexities of centrifugal compressor design.

"In sharp contrast, these facilities currently in Annapolis are spread throughout at least two buildings."

- The facilities that are separate from the majority of the Non-CFC test facilities are the Centrifugal Compressor Development Facility (CCDF) and the Environmental Test Enclosure (ETE) built to evaluate the performance of complete A/C units operating with a refrigerant that has not completed toxicity exposure limit testing. The ETE is in a room by itself so that the personnel access is limited to those that have been briefed on the hazards, the atmosphere can be monitored and the ventilation is separated from the rest of the building. The CCDF is a complex facility that focuses on performance evaluations of the compressor and not the entire unit. Therefore, collocation with the shipboard A/C plant test facilities is not required. The location of the CCDF was selected to provide sufficient space to locate all of the equipment required to operate test compressors over a wide range of capacities and conditions. However, all of theses facilities are in the same building, simply different wings.

"Furthermore, given the relatively portable nature of the Annapolis facilities...

• Centrifugal Compressor Development Facility (CCDF): The major components of the CCDF are the test compressor drive line, the flow meter rack, the desuperheater, the condenser, the auxiliary cooling unit, the separating tanks, the cooling system dynamometer, the motor controllers, the system controls and the instrumentation. This facility is required by the Navy to develop compressors that will be used with the Non-CFC conversion and for future ship construction. Relocation will require separating the various components into transportable pieces that are each sealed and charged with nitrogen to prevent contamination and corrosion. The CCDF was "built into" the room where it is located. Relocating it into a different space will require extensive modification of the interconnecting components and mounting schemes. Due to the large size of many of the piping components, these modifications will be expensive and will require lead time to procure. Due to the environmental regulations on refrigerants, retesting the leak tightness of the entire system will also require a significant amount of time.

• Cooling System Dynamometer (CSD): The unique raised floor construction where these units are located in Annapolis has simplified the design but complicates relocating them. The interconnecting pipe runs are made under the floor. In addition, some of the equipment is located under the floor. Many of the heat exchangers that are mounted on the floor have their pipe connections through the floor. It is misleading to suggest that the five duplex CSDs can be simply picked up and relocated on a solid floor without extensive modifications.

• Environmental Test Enclosure (ETE): The urgency to convert from CFC refrigerants to Non-CFC refrigerants has resulted in the availability of refrigerants before it has been tested so that it can be listed by the Toxic Substance Control Act (TSCA). Before a refrigerant is listed, it must be considered toxic. Therefore, when testing with these refrigerants, it is necessary to protect both the personnel working with the units and the personnel in the surrounding areas. This is accomplished by placing the A/C units in enclosures that are maintained at a negative pressure, are separately vented, have atmosphere monitors and alarms in the event of a leak. The Navy has no control over when the Non-CFC refrigerant will be listed by the TSCA. Therefore, it must be assumed that the enclosures will also have to be relocated with their A/C units.

"Based on empirical evidence gained from the previous movement of Non-CFC equipment....

- Estimating the cost to relocate test facilities used for R&D based on estimates to relocate test facilities used for Test and Evaluation will result in lower than representative values. The instrumentation required for R&D is significantly more than that used for T&E. Accurate measurements add complexity to the design requirements of the facility. It is impossible to estimate the cost of relocating facilities without a complete understanding of the operating requirements of each individual component.

"There is sufficient flexibility in the projected Non-CFC R&D and implementation schedule...

- Recent discussions between NAVSEA and the activities executing the Non-CFC Program have confirmed that the program plan as approved is considered to be the lowest risk path to providing support to the Fleet before there is a negative impact due the the restrictions imposed by the Montreal Protocol. The Navy has assembled a strategic CFC stockpile. The stockpile will be sufficient to support the Fleet until the conversion to an environmentally acceptable refrigerant has been completed. Delays to the program are a serious issue. Navy ships cannot be deployed if the A/C units are not operating. It should also be noted that if the Fleet uses more refrigerant than the projected amount used to define the stockpile, Fleet activities will be impacted. Therefore, acceleration of the program should be emphasized, not slowing it down as suggested by Philadelphia. Furthermore, the time estimate provided by Philadelphia is based on an estimate to move T&E equipment that resulted from BRAC '91 which has not yet been implemented. The program impact of 3-4 weeks is an estimate based on an estimate by a group that has no experience with this type of facility. Believing the estimate provided by Philadelphia will have a serious negative impact on Fleet operations.

DEEP OCEAN MACHINERY AND VEHICLE PRESSURE SIMULATION FACILITY

Response to Comment: At-Sea Testing Will Not Increase With Realignment

- ***at-sea testing would put U.S. servicemen at risk*** is an incorrect statement of our position. The correct statement is that it would add increased cost to some systems by requiring at-sea testing or it would put some unmanned equipment at risk by forgoing testing.

- Useful pressure vessel life is based on fatigue cycles not calendar years. Only 10% of the A-Tanks useful life has been used to date.

- The Annapolis test facility capability statement ***does not exist anywhere else in the free world*** is factual and supportable.

- Hard cycle capability is only one of many distinctions cited by Annapolis as capabilities not available at other facilities.

- The 1974 pressure vessel study (21 years old) does not take into account the testing of materials such as composites that cannot be tested using the soft cycle approach.

- This same 1974 study states that design and fatigue life determine the useful life of a pressure vessel, not calendar years. Annapolis estimates the A-Tank to have at least 20 more years of useful life (to the year 2015).

- A tribute to its designers, the Annapolis facility is still a state-of-the-art pressure test facility providing a truly unique capability which has not been replaced by technology advances.

- One could ,in fact, suggest almost anything but to suggest that by abandoning the Annapolis pressure test facility and use non-existing facilities at Philadelphia will in some way improve products is ludicrous.

II. Response To Comment: Deep Ocean Simulation Capability Exists Elsewhere

- No other deep ocean simulation facility has as much capability as the Annapolis facility as shown by the data in the list of pressure simulation facilities supplied by Philadelphia.

- In reality, the value of the Annapolis facility has been enhanced by advances in technology. Advances in composite materials for submarine hulls and more Navy systems operating at deep ocean depth makes the need for the Annapolis facility's capabilities more important then ever.

- The Annapolis facility has conducted a variety of important tests for the Navy on unmanned vehicles and systems over the passed 12 years since the last manned test was conducted.

- Although many of the recent cited tests were for private companies, most of these test were related to a DoD contract in some way. This is but one way in which the Annapolis facility supports the private sector while promoting DoD objectives.

- There will always be systems that are too large for pressure vessel testing, but, this does not support the position that large pressure vessels like the A-Tank at Annapolis are no longer needed.

- The conclusion put forth by Philadelphia that the Annapolis pressure test facility is no longer needed because scale model testing or computer modeling can be substituted for actual pressure tests is misleading and counter-productive.

III Response To: Deep Ocean Simulation Test Facilities and Alterative Options

- The A-Tank at Annapolis is the largest pressure vessel with a working pressure of 12,000 psi as shown by the data supplied by Philadelphia. The data also shows that there are only three tanks larger then 6 feet in diameter that can be used above 6,000 psi. Neither of these can come close to matching the 10 foot diameter by 27 foot long dimensions of the A-tank nor its operating pressure of 12,000 psi.

- Soft cycling in an accepted practice for some materials, but, it is not acceptable for testing composite materials or structures that can not filled with a high pressure fluid.

Document Separator

Interesting Excerpts

TAB	TAB Heading	Interesting Excerpt
1	Scenario 35A	Pages from the adopted scenario which show one-time costs, recurring costs and personnel movements that were deliberately ignored and overlooked.
2	Clarifications	Responses to questions asked by the BSAT which introduced additional personnel movements and one-time costs.
3	BSEC 12/12/94	Excerpts of meeting minutes where the BSEC deliberately disallowed moving costs and recurring costs.
4	Configuration	Excerpts from BSEC meeting minutes where the results from the configuration model for technical centers were presented and discussed. Note that NSWC/Annapolis has 0 expansion potential, substantial RDT&E efforts and that NSWC/Philadelphia has very limited expansion potential. Also note that the model reportedly moves work within a functional area which for NSWC/Annapolis was Platforms, Ships. Further note that only NSWC/Philadelphia and Carderock are in that same category. Also note in the model results, Annapolis is closed yet there is no RDT&E work at NSWC/Philadelphia under Platforms, Ships in the solution.
5	Mil Value	Excerpts from BSEC meeting minutes showing the transition of NSWC/Philadelphia from about 21 in military value to about 26 solely based on quality of life scores which are irrelevant for a 99.9% civilian organization.

6	BSEC 12/7/94	Excerpts from BSEC meeting where costing rules were established. It appears these rules were established only for comparison on the joint arena and were misapplied universally thereafter. Further, by 12/7/94 the BSEC had the Scenario results in hand and were certainly aware of the cost implications and might have been "gaming" the rules. Further, note that only certain costs were disallowed by rule, yet in the 12/12/94 meeting, all one-time costs were eliminated.
7	Data Call 66	Excerpts from activity data call 66 which give the RPMA and BOS costs for NSWC/Philadelphia and Annapolis. Note these are FY 96 costs and do not apparently reflect the post BRAC'91 leaner NSWC/ Annapolis. Also note that these costs were incorrectly entered in the COBRA analysis.

Excerpts from Scenario 35A

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

NEXT ECHELON LEVEL (if applicable)

James E. Baskerville; Captain USN
NAME (Please type or print)

Signature

Commander
Title

27 January 1995
Date

Carderock Division, NSWC
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM D. P. SARGENT, JR.
NAME (Please type or print)

Signature

COMMANDER
Title

27 January 1995
Date

NAVAL SURFACE WARFARE CENTER
Activity

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print)

G. R. STERNER

Signature

~~Commander~~
Title

1-31-95
Date

Naval Sea 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

2/17/95
Date

Activity

This certification covers the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

<u>BRAC-95 CERTIFICATION</u>

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

L. R. Walker; Commander, USN	L R Walker
NAME (Please type or print)	Signature
Officer-in-Charge	27 January 1995
Title	Date

Naval Surface Warfare Center, Carderock Division Detachment, Annapolis
Activity

This certification covers the NSWC/Carderock Division/Annapolis Detachment Response to the BRAC Scenario 3-20-0198-035A.

BRAC-95 SCENARIO DEVELOPMENT DATA CALL
ENCLOSURE (1) - SCENARIO SUMMARY

Complete one copy of Enclosure (1) - Scenario Summary for the entire closure/realignment scenario. Tables included in this enclosure are 1-A, 1-B and 1-C.

Table 1-A: Scenario Description. Identify the Scenario Number, Title and Response Date. The Scenario Number and Title will be provided to you by the BSAT as part of the data call tasking.

Scenario No.:	3-20-0198-035A
Scenario Title:	NSWC Annapolis
Date:	1600 EST, 22 December 1994

DESCRIPTION OF THE PROPOSED ALTERNATIVE SCENARIO:

"Close NSWC Det Annapolis and Special Areas (Nike Site). Consolidate the majority of the Machinery R&D functions at NSWC-Philadelphia and at other NSWC Carderock sites as appropriate. Relocate/Replicate, as fiscally prudent and appropriate, those specialized capabilities and facilities now only available at NSWC Annapolis."

IMPACT STATEMENT:

The scenario 3-20-0198-035 as presented by the BSAT is impractical to implement. As per the BRAC 95 instructions, the NAVSEASYSCOM is providing a recommended alternative which still closes NSWC Det Annapolis, but is significantly different from the "baseline scenario". **The "baseline scenario" creates significant eliminations in overall US Navy critical capabilities (i.e. vertical mission reductions). This scenario relocates seven facilities from Annapolis (see pages 7 and 8) which were not relocated in the baseline scenario 3-20-0198-35 and therefore retains many of the Mission Essential Machinery RDT&E capabilities within the U.S. Navy Force Structure while reducing overall Navy Infrastructure costs.** The alternative scenario however, does result in some lost capabilities and will adversely impact the ability of the U.S. Navy to meet selected requirements.

Scenario 3-20-0198-035A, as in Scenario 3-20-0198-035, provides for the closure of "...special areas (NIKE Site)." The Intermediate Fire Research equipment will relocate from the Nike site, without the personnel, to NRL Chesapeake Beach Detachment. The Sea Survival/Life Saving Sytems will be moved to the NSWC Philadelphia site, and the remaining

Materials Research test facilities (functionally realigned under BRAC 91 to the NSWC Carderock site) will be moved to the Carderock site.

A. <u>Annapolis Site Closure Impact Assessment</u>:

Facilities at NSWC Annapolis Site have been developed to serve unique aspects of Research and Development. In particular, these facilities are capable of controlling machinery operating parameters independently and maintaining them over extended periods of time, as well as varying them over the entire range. These characteristics are not available in the majority of In-Service Engineering (ISE) facilities at NSWC Philadelphia. In many cases they cannot be obtained through augmentation, but are essential to the R&D function of defining the performance of developmental equipment and verifying analytical models. Examples where Philadelphia assets are adequate include Compressed Air, Shock and Vibration, and Diesel Engine Facilities. In contrast, facilities where augmentation would be costly and impractical include Propulsion Line Shaft, Auxiliary Machinery, and Environmental Non-CFC. Facilities that do not exist in any form include Deep Ocean Machinery Simulation, Magnetic Fields, Submarine Fluid Dynamics, Electric Power, Electric Propulsion, and Machinery Acoustic Silencing.

In this alternative scenario the closure of the Annapolis Site with the migration of selected critical staff and mission essential R&D facilities provides for the continuance of the majority of the Navy's capabilities to transform machinery requirements into technical and procurement specifications (military and commercial), the development of specialized certification criteria and associated validation of system designs, and the ability to provide acceptance testing of specialized or "one of a kind" full-scale machinery systems. Currently, the Annapolis based Machinery R&D Directorate supports and complements the hull focused functions at the NSWC Carderock Site as well as the ISE functions at the NSWC Philadelphia Site by providing an organic linkage of S&T capabilities with the machinery development, acquisition, and operational problem resolution processes.

[redacted] technical operations [redacted] with their primary Machinery R&D tools. An additional 28 positions will be [redacted] from excess capacity at receiving sites.

This scenario also eliminates some critical Machinery R&D capabilities through the loss of 94 personnel and their RDT&E facilities and/or equipments.

Selected capabilities in Machinery R&D retained in this altern
below:

* The R&D scientists and engineers remain connected with their
  the ability to <u>integrate</u> the ship systems technologies and comp

Annapolis Site
Scenario 3-20-0198-035A

f. Miscellaneous Recurring Costs. Identify any other recurring costs at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., new leases of facilities or equipment, etc. For each cost, identify the amount, year in which the cost will begin and describe the nature of the cost. Only costs directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances or CHAMPUS costs, all of which are calculated by other COBRA algorithms.) Do not double count changes in Mission costs shown above. Do not double count any costs identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC-Annapolis

	Annual Cost	FY	Description
1.	255 K	97	Mothball[1] cost for Deep ocean Pressure Facility (See Note 1)
2.	[redacted]		Additional travel costs[2]

Note 1: The recurring annual costs for the Deep Ocean Pressure Facility provides for basic services (environmental controls). The environmental controls are required to maintain the future certifiability of this high pressure tank system. These environmental controls consist of maintaining facility temperature sufficiently above the freezing point of water in the Winter to preclude the possibility of damage due to the expansion of frozen water, purging of and placing a nitrogen blanket in the gaseous portions of the system to prevent possibility of corrosion within the pipes, and control of humidity throughout the facility to control the rate of corrosion on the exterior portions of the facility. The cost was obtained from a proportionate allocation of cost to retain in a "reserve" status from the Detailed Inventory of Naval Shore Facilities (NAVFAC P-164). The "reserve" category in NAVFAC P-164 Detailed Inventory of Naval Shore Facilities, is the same as "moth ball", i.e. it is the category between "standby" and "abandon".

Note 2: [redacted] simplicity, it is assumed that these costs begin in FY 97 and remain stable thereafter.

g. Miscellaneous Recurring Savings. Identify any other recurring savings at the losing base which will not be calculated automatically by the COBRA algorithms (as noted in the Introduction section), e.g., elimination of leases of facilities or equipment, etc. For the savings, identify the amount, year in which each will begin and describe the nature of the savings. Only savings directly attributable to the closure/realignment action should be identified. (Do not include changes in non-payroll BOS, Family Housing Operations, housing allowances, CHAMPUS costs or salary savings for eliminated positions/billets, all of which are calculated by other COBRA algorithms.) Do not double count changes in Mission Costs shown above. Do not double count any savings identified on Gaining Base tables (Enclosure (3)).

Losing Base: NSWC-Annapolis

Annual Savings	FY	Description
1. None		

---

[1]**See Attachment II, DJD 04, 015.**

[2]**See Attachment II, DJD 09, Question 3.**

Summarize data shown in response to supporting data questions a. through j. above in the following table. Note that all entries must be shown in ($000).

Table 2-F(1)Dynamic Base Information Summary

Losing Base: NSWC-Annapolis								
		1996	1997	1998	1999	2000	2001	Total
a.	One-Time Unique Costs	[illegible][1]	4,700	1,000	8,919	0	0	25,834
b.	One-Time Unique Svgs	0	0	0	0	0	0	0
c.	One-Time Move Costs	[illegible]	19,650	5,000	0	0	0	30,650
d.	Net Mission Costs	0	0	0	0	0	0	0
e.	Net Mission Savings	0	0	0	0	0	0	0
f.	Misc Recur Costs Note 2	0	586 Note 1,3	0	0	0	0	586
g.	Misc Recur Savings	0	0	0	0	0	0	0
h.	Land Sales	0	0	0	0	0	0	0
i.	Procurement Cost Avoid	0	0	0	0	0	0	0

j. Fac. Shutdown (KSF)	598[2]

Note 1: "Miscellaneous Recurring Costs" provide for the Deep Ocean Facility moth ball costs.
Note 2: Miscellaneous recurring costs are entered for the first year of occurence per COBRA instructions.
Note 3: Miscellaneous additional costs for recurring travel from Philadelphia to Washington.

[1]See Attachment II, DJD 020.

[2]See Attachment II, DJD 09.

Gaining Base:	ANNAPOLIS, MD - LEASED SPACE

Table 3-A (5): Supporting Data

a. Other One-Time Unique Costs.

a. (1) Community Infrastructure Impacts.

	Cost	FY	Location	Description
1.	None			

a. (2) Other Unique One-Time Costs.

	Cost	FY	Description
1.	None		

b. Other One-Time Unique Savings.

	Cost	FY	Description
1.	None		

c. Environmental Mitigation.

	Cost	FY	Description
1.	None		

d. Miscellaneous [redacted]

	Annual Savings	FY	Description
1.	[redacted]	97	These costs accomodates the Joint Spectrum Center (a non-DoN Command)., [redacted] cost is for the [redacted] Center employees to be housed in a [redacted] with the approximately 700 contractor [redacted] already at the ADM Cochran Blve site in [redacted]polis. [redacted] does not include any costs f[redacted] personnel already located off the NSWC- [redacted]

e. Miscellaneous Recurring Savings.

	Annual Savings	FY	Description
1.	None		

f. Land Purchases.

	Cost	No. of Acres	FY	Description
1.	None			

Response to DJD021
DJD024
DJD011

BSAT REQUEST FOR CLARIFICATION -- DJD 021

ATTACHMENT II

REQUEST FOR CLARIFICATION

BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 021

Date sent: 8 Dec 94

Activity: NSWC Carderock Div (Annapolis)

ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. In the non-CFC R&D program, how many of Annapolis' in-house personnel are performing direct development work on the Navy's non-CFC cooling requirements? Do not include contractors.

2. In the non-CFC R&D program, how many of Annapolis' in-house personnel have duties in program management; awarding, directing and monitoring development contracts; generating performance or cost assessments; or recommending design improvements or corrective actions. Do not include contractors.

I need this information by 1800, 8 December.

Don DeYoung   (703) 681-0478

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R E METREY	01	301 227 1628	8 DEC 94
Name	Code	Commercial Phone #	Date

Scenario 3-20-0198-035 & -035A
Reference: Control #[redacted]
Received 1630 HRS 8 DEC 1994
Due: 1800 HRS 8 DEC 1994

1. In the non-CFC R&D program, how many of Annapolis' in-house personnel are performing direct development work on the Navy's non-CFC cooling requirements? Do not include contractors.

Response:

[redacted] This growth will be accomplished through adjustment of personnel assignments and/or if possible, staff augmentation. Members of the in-house staff frequently split their work time between actual development work and work related to contracting or program management. Annapolis in-house personnel will perform 25 work years of direct development work on the Navy's non-CFC cooling requirements in FY95 and 33 work years in FY96 and beyond. In addition, an estimated one man year per year of base operating support (which assures the availability of cooling water and other services) is required.

2. In the non-CFC R&D program, how many of Annapolis' in-house personnel have duties in program management, directing and monitoring development contracts, generating performance or cost assessments, or recommending design improvements or corrective actions. Do not include contractors.

Response:

Annapolis in-house personnel will perform 5 work years in the areas of program management, awarding, directing, and monitoring development contracts; generating performance of cost assessments; or recommending design improvements or corrective actions in FY95. In FY96 and beyond this number will grow to 7 work years. Only 3 to 4 personnel are devoted exclusively to these areas, the balance of the work years are split among many personnel attached to this program who use their "hands on" R&D knowledge to ensure that these functions are performed efficiently and to the exacting standards necessary to meet Navy requirements. In addition, an estimated one man year per year of contract specialist support is required.

REQUEST FOR CLARIFICATION
BASE STRUCTURE ANALYSIS TEAM (BSAT)

Control # DJD 024
Activity: NSWC Carderock Div (Annapolis)

Date sent: 12 Dec 94

ATTN: Jim Logan or Judith Atkins   Fax: 703-602-0541

CLARIFICATION / CORRECTION REQUESTED for Scenario Development Data Call # 3-20-0198-035 and 035A:

1. Estimate the one-time moving costs of relocating (not replicating) the non-CFC facilities from Annapolis to NSWC Philadelphia. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly, assembly and calibration costs separately.

I need this information NLT 1400, 13 December.

Don DeYoung - (703) 681-0478

NOTE: ~~This information is needed~~ urgently. Request you respond with clarification comments (below) or corrected page(s). FAX a preliminary response directly to the BSAT at (703) 756-2174. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT. Official documentation must be retained to support your response and be available for validation by the Naval Audit Service.

Reply:

R.E. METREY	01	(301) 227-1628	13 DEC 94
Name	Code	Commercial Phone #	Date

22 Dec 1994
II -- 128

DEC-12-1994 17:55 FROM

1. **QUESTION: Estimate the one-time moving costs of relocating (not replicating) the non-CFC facilities from Annapolis to NSWC-Philadelphia. Estimate the total tons of mission equipment involved in the move as well as any special shipping costs. Estimate the reassembly <disassembly>, assembly and calibration costs separately.**

Reponse: The total weight of mission equipment being moved in a relocation from NSWC-Annapolis to NSWC-Philadelphia is estimated at 450 tons and there are no anticipated special shipping costs. [redacted] and $4600K calibration as discussed below.

Some background information and definitions may be helpful in clearing up any confusion caused by the numerous questions and answers on this topic (DJD 014, DJD 016, DJD 017 and DJD 023).

It is important to distinguish between the **non-CFC facilities** at NSWC Annapolis and the **shipboard cooling systems** installed at Annapolis in these facilities.

The following shipboard cooling systems are installed and operational in the Annapolis facilities: CG 47, DDG 51, SSN 21, SSN 688, SSBN 726, CVN 68, LHD 1 and LSD 44. The following are in process: DD 963, DDG 993, AOE 6, and LCC 19. The total replacement value of this shipboard full scale equipment is $9M.

Retargetting "in process" AC plants for installation at a "relocated" NSWC-Philadelphia site could potentially save some baselining costs of approximately $1M. However, no facility costs would be saved since the facilities to accommodate the installed and planned equipment are currently in place and operational in Annapolis. Also, such a retargetting would result in an additional delay of more than one year in program execution for these systems based on a mismatch between anticipated equipment delivery schedule and the Philadelphia facility availability.

It is presumed in all the relocation responses that the shipboard cooling equipment would be relocated. Only in the one replication response (DJD 023 of 9 December 1994 Question 3) would this equipment be replaced. The $9M equipment replacement cost is for the equipment alone and does not include installation, debugging, instrumentation, calibration, and baseline data generation which has been completed or is in the process of being generated.

The non-CFC facilities consist of three functionally separate facilities -refrigeration plant development facility, centrifugal compressor development facility (CCDF), and the shipboard AC plant development facilities which are also referred to as cooling system dynamometers (CSD). All of these facilities are integrated sharing cooling water, instrumentation and personnel. These facilities were custom designed by NSWC Annapolis engineers for the unique Annapolis environment (Severn River heat rejection and for the space/locations made available) and then constructed on site by NSWC Annapolis shop personnel.

The CCDF and CSD are absolutely essential for the R&D process to succeed in the development and qualification of modifications for shipboard cooling systems to operate with environmentally acceptable refrigerants. The CCDF allows precision measurement of centrifugal compressor performance in the actual fluid. This performance cannot be measured on the cooling system because of the compact design of these plants which produces flow distortions entering the compressor. The CSDs create and maintain a precise cooling load (capacity) for the plant at a precise head (condenser water entering temperature) condition. These conditions must be created and maintained for extended periods and varied in precise steps to fully document the performance of the system with the current refrigerant and then with the replacement refrigerant (after modification of the system) to ensure that the same performance, power consumption and acoustic signature is being produced by the modified plant. There are six duplex (capable of serving two plants at independent conditions) CSDs at Annapolis.

Each of these facilities consists of certain key components (heat exchangers, pumps, flow measuring equipment and other instrumentation, control valves, auxiliary cooling plants) and a significant amount of piping custom fitted to the installation of each facility. It is presumed that some of the key components might be relocated but the piping systems would be scrapped and refitted at the new location. Many of the key components would also be unsuitable for the new location since they were designed for the unique characteristics of the Annapolis location, i.e. the heat exchangers were designed for Severn River water cooling whereas all of the alternate locations identified in prior questions would utilize a cooling tower. Environmental factors at NSWC-Philadelphia require water tower cooling at that site also. The pumps were selected for the layout and location as installed at Annapolis. It is impossible to determine if the current pumps would be useful in the new location, so it is presumed that they would be replaced. In essence, relocation of the facilities is almost equivalent to replication of the facilities. (Again these are the facilities, not the shipboard cooling systems).

The previously cited $11.2M relocation cost is based on the actual experience of NSWC-Annapolis in this effort and is broken down as:

Disassembly: 700K

- Disconnect AC plants and salvage useful equipment for relocation -(700K)

Reassembly: 5,900K

- Construct six CSDs at new location - (2,500K)
- Install 12 AC plants at new location - (2,400K)
- Construct CCDF at new location - (1,000K)

Calibration: 4,600K

- Instrument and calibrate AC plants at new location - (1,200K)
- Baseline the performance of AC plants at new location - (2,400K)
- Calibrate and baseline CCDF facility - (1,000K)

Total: 11,200K

In the replication question (DJD 023), the only difference in cost (besides the shipboard cooling system acquisition cost) is the savings of $700K in combined disconnect and salvaging cost. However, the estimated replacement cost of the key components that would not be relocated in a replication scenario would cancel this savings.

All of the relocation scenarios will result in a minimum two year delay in program execution as the current facilities are dismantled and replaced at the new location. As stated in our previous answers to DJD 014 of 6 December 1994 Question 3, this will have an adverse impact on the CFC stockpile and on fleet readiness and combat capability. A similar adverse impact would result if the in process AC plants were retargetted to NSWC-Philadelphia as discussed above.

The replication response (DJD 023) wherein the facilities and the shipboard cooling equipment are constructed at the new location theoretically will not result in any program delay. In reality however, the program schedule is likely to suffer because of the anticipated loss of skilled and experienced R&D personnel now executing the program. Replication itself, as discussed in DJD 023, will require a minimum three years to accomplish.

Previous answers to this and similar questions are summarized below:

Reference	Destination	Type	Cost	Comments
DJD 014 6 December 1994 Question 3	Contractor (York International)	Relocation	$11.2M	Assumes adequate building and cooling tower capability.
DJD 016 7 December 1994 Question 2	NSWC Carderock	Relocation	$21.2M	Includes cost of building and cooling tower ($10M)
DJD 017 7 December 1994 Question 1	Shipyard	Relocation	$11.2M	Adequate cooling tower and building assumed.
DJD 023 9 December 1994 Question 3	NSWC Philadelphia	Replication	$20.2M	Includes replacement cost of shipboard equipment ($9M). Assumes adequate cooling tower and building.'

Scenario -35 proposes the relocation to Philadelphia of the 172 personnel performing the inherently governmental functions related to propulsion, auxiliary and electrical machinery, and machinery silencing. These functions are both critical to the development of advanced technology for future ships and submarines and critical for the execution of Navy machinery programs.

Personnel Performing Inherently Governmental Functions include positions. such as program management, awarding, directing and monitoring development contracts, generating performance or cost assessments, or recommending design improvements or corrective actions which can be performed without requiring the operation of the facilities now located at Annapolis.

The expertise embodied by these personnel does not exist elsewhere in government or industry.

2. **QUESTION: How many personnel are required to operate the potable water facilities?**

Response. [redacted] There are 4 water plant operators and 1 supervisor. The operators stand an 8 hour watch and rotate through shifts. The supervisor handles supervision, record keeping, and is available to allow for leave or emergent requirements for an additional person.

3. **QUESTION: With the exception of the manned vehicle testing last conducted in 1983, what types of testing have been conducted over the last five years that could not have been conducted elsewhere?**

Response. The following types of testing that could not have been conducted elsewhere and have been performed over the last five years are as follows:

Vehicles

Qualifying and evaluating vehicles such as Cable Controlled Underwater Recovery Vehicle (CURV), ORION, etc. require high pressure (10,000 - 12,000 psi), size (10 ft diameter, 27 ft length) and horizontal orientation.

Deep Ocean Machinery Systems

Qualifying and evaluating deep ocean machinery system such as the SSN-21 Secondary Propulsion Unit, Deep Submergence Electric Power Distribution System, etc. require a horizontal orientation, heat removal capability and size (10 ft diameter, 27 ft length).

Document Separator

Excerpts from BSEC Deliberations
of Dec. 12, 1994.

BSAT BASE STRUCTURE ANALYSIS TEAM

4401 Ford Avenue • Post Office Box 16268 • Alexandria, Virginia 22302-0268 • (703) 681-0490

RP-0492-F9
BSAT/OZ
12 DEC 1994

MEMORANDUM FOR BASE STRUCTURE EVALUATION COMMITTEE

Subj: REPORT OF BSEC DELIBERATIONS ON 12 DECEMBER 1994

Encl:
(1) Chairman, JCSG Military Treatment Facilities, Memo, dtd 5 DEC 1994
(2) Briefing Materials for COBRA Analysis (NAVHOSP Corpus Christi)
(3) Briefing Materials for COBRA Analysis (NAVHOSP Beaufort)
(4) Briefing Materials for COBRA Analysis (NISMC)
(5) Briefing Materials for COBRA Analysis (NWAD Corona)
(6) Briefing Materials for COBRA Analysis (NWADA Corona)
(7) Briefing Materials for COBRA Analysis (NWADB Corona)
(8) Briefing Materials for NWAD Corona Functional Areas
(9) Briefing Materials for NWAD Corona Scenario Movements
(10) Briefing Materials for NWAD Corona Scenario Comparison
(11) Briefing Materials for COBRA Analysis (NSWC Annapolis)
(12) Briefing Materials for Functions Lost in NSWC Baseline Scenario
(13) Briefing Material for COBRA Analysis (NHRC San Diego)
(14) Briefing Materials for COBRA Analysis (WESTDIV, EFANW, and SOUTHDIV)
(15) Briefing Materials for COBRA Analysis (NAS Atlanta)
(16) Briefing Materials for COBRA Analysis (Scenarios 099 and 103)
(17) Briefing Materials for COBRA Analysis (FISC Oakland)
(18) SUPSHIP Military Value Matrix
(19) Briefing Materials for COBRA Analysis (SUPSHIPS)
(20) Briefing Materials for COBRA Analysis (JCSG-DM-2-Norfolk)
(21) Briefing Materials for COBRA Analysis (NISE Norfolk)

1. The sixty-sixth deliberative session of the Base Structure Evaluation Committee (BSEC) convened at 0956 on 12 December 1994 at the Center for Naval Analyses. The following members of the BSEC were present: The Honorable Robert B. Pirie, Jr., Chairman; Mr. Charles P. Nemfakos, Vice Chairman; Ms. Genie McBurnett; Vice Admiral Richard Allen, USN; Vice Admiral William A. Earner, Jr., USN; Lieutenant General James A. Brabham, USMC; and Ms. Elsie Munsell. The following members of the BSAT were present: Mr. John Turnquist; Mr. Richard Leach; Mr. David Wennergren; Ms. Anne

Rathmell Davis; Captain Michael Golembieski, MC, USN; Captain Richard Ozmun, JAGC, USN; and Commander Cindy DiLorenzo, MSC, USN.

2. Captain Golembieski advised the BSEC concerning Military Treatment Facilities Joint Cross Service Group (JCSG) revised alternatives. See enclosure (1). The revisions were due to a minor error in the methodology for calculating acute bed demand. The revisions did not affect Department of the Navy (DON) activities.

3. Mr. Wennergren briefed the results of the COBRA analysis for the JCSG alternative realigning Corpus Christi Naval Hospital to a clinic (Scenario 105). See enclosure (2). The analysis resulted in the movement or elimination of 3 officer, 25 enlisted, and 21 civilian billets/positions. The analysis took into consideration the reallocation of personnel (32 officers, 96 enlisted, and 14 civilians) from Naval Hospital Corpus Christi as a result of programmed budget reductions (POM 96). The reallocation of personnel from Naval Hospital Corpus Christi to other naval hospitals would achieve significant long term savings by eliminating personal services contracts at the receiving sites. The one-time costs were $2.6 million, steady-state savings were $1.3 million, and the return on investment was immediate. The military construction costs of a new medical facility at NAS Pensacola to accommodate moving aviation personnel were $2.1 million. Upon review, the BSEC accepted the results of the COBRA analysis as presented.

4. Mr. Wennergren briefed the COBRA analysis of the JCSG alternative realigning Naval Hospital Beaufort to a clinic (Scenario 104). See enclosure (3). The one-time costs were $1.0 million, steady-state costs were $1.1 million, and the return on investment was never. There was no payoff because of the increase in CHAMPUS costs due to the loss of inpatient care at Beaufort. No officer or enlisted billets were eliminated since active duty inpatient personnel were transferred to Naval Hospital Jacksonville to support inpatient workload transferred from Naval Hospital Beaufort. In view of the poor access to local civilian care at Beaufort, the increased CHAMPUS costs that would be incurred, and the absence of any personnel savings the BSEC decided not to further consider the proposed alternative realigning Naval Hospital Beaufort to a clinic.

5. Commander DiLorenzo departed the deliberative session. Ms. Murrell Coast entered the deliberative session.

6. Mr. Wennergren briefed the results of the COBRA analysis of the relocation of NISMC from leased space at Crystal City to government space at Naval District Washington (Scenario 070). See enclosure (4). The one-time costs were $132.0 thousand and the return on investment was 2 years. The BSEC accepted the results of the COBRA

analysis of NISMC.

7. Captain Golembieski and Ms. Coast departed the deliberative session. Mr. Gerald Schiefer, Mr. Don DeYoung, Commander Mark Samuels, CEC, USN, and Major Walt Cone, USMC, entered the deliberative session.

8. Mr. Schiefer reported to the BSEC concerning the current status of DoN Technical Centers activities and the JCSG T&E in the BRAC-95 process.

9. Mr. Wennergren and Commander Samuels briefed the COBRA analysis of the closure of NWAD Corona, with necessary functions moving to the Naval Post Graduate School (NPGS) (Scenario 039). See enclosures (5) through (10). Commander Samuels described the four functional areas performed at NWAD Corona (Measurement Science, Performance Assessment, Quality Assessment, and Systems Engineering). See enclosure (8). The data response provided two alternatives (ALT A and ALT B, enclosures (6) and (7)) to the basic scenario. Enclosure (10) reflects the NWAD Corona Scenario Comparison. The BSAT adjusted military construction costs by: changing the cost code for RDT&E office space to administrative vice RDT&E laboratory (lab); reducing non-lab/non-warehouse loading densities to 170 square feet per billet vice 243/500 square feet per billet, resulting in 29% to 34% in reduced square footage requirements; and reducing by 25% the proposed square footage for the warehouse/precision machine shop space (25% of the inventory is for systems no longer used in the Fleet). The basic scenario (enclosure (5)) resulted in one-time costs of $73.9 million, steady-state savings of $20.6 million, and return on investment in 3 years. The total military construction cost was $47.7 million. Military construction costs for ALT A enclosure (6), and ALT B, enclosure (7), totalled $31.7 million and $46.8 million, respectively. The BSEC noted that all three scenarios required significant military construction costs at the activities receiving NWAD Corona functions. Upon discussion, the BSEC directed the BSAT to run a COBRA analysis on another alternative (ALT C). The ALT C scenario moves: the Measurement Science functions to NSWC Crane, except for Test Set Certification RDT&E which moves to NAWC China Lake; the Performance Assessment functions to NPGS; the Quality Assessment RDT&E to the NPGS; and the Systems Engineering RDT&E to NAWC China Lake. The BSEC will consider the results of the COBRA analysis for ALT C when they are available.

10. Mr. Wennergren briefed the results of COBRA analysis for the closure of NSWC Annapolis (Baseline, Scenario 035) and an alternative (ALT1) provided in the data call response. See enclosures (11) and (12), respectively. The one-time costs for the Baseline Scenario were $27.3 million/for ALT1 were $19.8 million; steady-state savings for the Baseline Scenario were $19.8

million/for ALT1 were $14.7 million; and the return on investment was 1 year for both scenarios. The Baseline Scenario eliminates 228 civilian positions/1 officer billet and ALT1 eliminates 138 civilian positions/1 officer billet. Both scenarios eliminate 57 support billets, however, the Baseline Scenario eliminates 172 technical positions while ALT1 eliminates 82 technical positions. A review of the scenarios and COBRA analysis reflected the following:

a. Both scenarios closed the Nike Site (relocating the Site's fire testing, sea survivability, and materials processing functions), mothballed the Deep Ocean Pressure Simulation Facility, and moved the Joint Spectrum Center (JSC) to leased space in Annapolis. The BSEC directed that COBRA analysis be run on the Deep Ocean Pressure Simulation Facility as closed vice mothballing. The BSEC allowed reasonable moving costs of the JSC, but disallowed recurring lease costs (the JSC personnel moving were under the cognizance of the Air Force through FY 1995 and under DISA beginning in FY 1996, not the DON). See enclosure (11).

b. Eleven functions were lost in the Baseline Scenario (with ALT1 losing only four functions while moving seven functions. See enclosure (12). Included in the functions lost in both scenarios was the loss of the Non-CFC Laboratory. Noting that the loss of the Non-CFC Laboratory would severely compromise the DON's ability to specify and validate combat system and crew cooling equipment, the BSEC directed that the Non-CFC Laboratory be relocated to NSWC Philadelphia, but without current personnel moving with the facility. The BSEC approved the BSAT exclusion of approximately $[illegible] million in one-time unique moving costs for the seven facilities relocated in ALT1 (e.g., disassembly of magnetic fields laboratory equipment and sensors and reassembly and calibration).

c. The BSEC directed the BSAT not to include contract termination costs in the analysis ($16,900 in the Baseline and [illegible] in ALT1). The BSEC further directed that the Magnetic Fields Laboratory be moved to Carderock vice White Oak. The BSEC also directed that the plant account for the fuel station and the water treatment facility be changed from the technical center to Naval Station Annapolis.

Upon review, the BSEC, noting the additional, significant functions retained in the ALT1 scenario, decided to further consider only the ALT1 Scenario, as changed above, in the base closure process.

11. Mr. Wennergren briefed the results of the COBRA analysis for closing the Naval Health Research Center (NHRC), San Diego, and consolidating necessary functions with BUPERS, Memphis (Scenario 074). See enclosure (13). The one-time costs were $10.4 million, steady-state savings were $1.0 million, return on investment was 12

ROI Summary

Scenario	One-Time Costs	Steady-State Savings	ROI Years	20 Year NPV
NSWC ANNAPOLIS	27.3	-19.8	1 Year	-242.6
NSWC ANNAPOLIS ALT1	19.8	-14.7	1 Year	-183.3

Notes: All Dollars shown in Millions

ENCL(11), 12-DEC94

Disposition of Billets/Positions

Scenario		Officers	Enlisted	Civilian	Students	Total
NSWC ANNAPOLIS	Eliminate	1	0	228		229
	Move	1	0	190	0	191
NSWC ANNAPOLIS ALT1	Eliminate	1	0	138		139
	Move	1	0	280	0	281

One-Time Costs Summary

Scenario	Const	Pers	Ovhd	Move	Other	Total Costs	Svgs	Net Costs
NSWC ANNAPOLIS	1.0	0.8	2.8	5.4	17.1	27.3	0.0	27.3
NSWC ANNAPOLIS ALT1	1.0	0.7	2.8	6.8	8.4	19.8	0.0	19.8

All Dollars shown in Millions

Notes:

MILCON Summary Report

Scenario:		NSWC ANNAPOLIS		
Construction		NSWC CARDEROCK, MD		
Description	Type	New Rqmt	Rehab Rqmt	Cost
Materials & Process.	RDT&E	10,000	0	1.0
TOTAL:				1.0

All Dollars shown in Millions

MILCON Summary Report

Scenario:		NSWC ANNAPOLIS ALT1		
Construction		NSWC CARDEROCK, MD		
Description	Type	New Rqmt	Rehab Rqmt	Cost
Materials & Process.	RDT&E	10,000	0	1.0
TOTAL:				1.0

All Dollars shown in Millions

COMPARISON OF BASELINE VS ALTERNATIVE SCENARIO

BASELINE

ELIMINATES ALL 57 SUPPORT BILLETS -- **100%** CUT
ELIMINATES 172 TECHNICAL BILLETS -- **47%** CUT
ELIMINATES 229 BILLETS -- **55%** CUT

ALTERNATIVE

ELIMINATES ALL 57 SUPPORT BILLETS -- **100%** CUT
ELIMINATES 82 TECHNICAL BILLETS -- **23%** CUT
ELIMINATES 139 BILLETS -- **33%** CUT

BOTH SCENARIOS

CLOSE NIKE SITE (FIRE TESTING, SEA SURVIVABILITY, MATERIALS PROCESSING)

PERSONNEL MOVED:

- *INHERENT GOVERNMENT FUNCTIONS* TO NSWC-PHILADELPHIA. [FUNCTIONS CRITICAL TO DEVELOP ADVANCED TECHNOLOGY FOR SHIPS AND SUBMARINES AND CRITICAL TO EXECUTE MACHINERY PROGRAMS] (172 BILLETS)
- EM SIGNATURES AND SILENCING SYSTEMS TO WHITE OAK (16 / 17 BILLETS)
- INFORMATION SYSTEMS R&D PERSONNEL TO CARDEROCK (3 BILLETS)

FACILITY MOTHBALLED: DEEP OCEAN PRESSURE SIMULATION FACILITY

FACILITIES MOVED:

- SEA SURVIVAL FACILITIES TO NSWC PHILADELPHIA (0 BILLETS)
- INTERMEDIATE-SCALE FIRE TESTING FACILITIES TO NRL (0 BILLETS)
- MATERIALS AND PROCESSING FACILITIES TO CARDEROCK (0 BILLETS)

TENANT MOVED:

- JOINT SPECTRUM CENTER TO LEASED SPACE IN ANNAPOLIS (134 TENANTS)

COMPLETE MOVE IN 1998

ENCLOSURE (11)

FUNCTIONS LOST IN BASELINE SCENARIO

COMPROMISE NAVY LEADERSHIP IN AUXILIARY, ELECTRICAL, AND PROPULSION MACHINERY SYSTEMS AND COMPONENTS. IMPACTS THE DIRECT DEVELOPMENT OF NEXT GENERATION TECHNOLOGIES FOR MACHINERY SYSTEMS MANUFACTURED BY PRIVATE INDUSTRY.

* LOSS OF ONLY *FULL SCALE SUBMARINE SHAFTLINE FACILITIES* CAPABLE OF PERFORMING REQUIRED QUALIFICATION AND SUBSAFE CERTIFICATION OF THRUST BEARINGS, VIBRATION REDUCERS, AND PROPULSION AND EMERGENCY SHAFT SEALS.

* LOSS OF *ELECTRIC DRIVE, CURRENT COLLECTION, AND PULSE POWER FACILITIES*. INCREASES DEVELOPMENT RISKS OF AFFORDABLE PROPULSION AND PROPULSION-DERIVED POWER FOR STRIKE AND SELF-DEFENSE WEAPONS (E.G., ELECTRIC GUN).

* LOSS OF *ELECTRICAL POWER AND AUXILIARY LABS* INCREASES DEVELOPMENT RISKS OF INTEGRATED SYSTEMS, WHICH PROVIDE INCREASED DAMAGE TOLERANCE, AS WELL AS REDUCING THE MANNING LEVELS, CREW SKILL REQUIREMENTS, AND ACQUISITION/SUPPORT COSTS.

* LOSS OF UNIQUE *FULL-SCALE MACHINERY MAGNETIC SIGNATURE MEASUREMENT FACILITY*, WHICH WILL SIGNIFICANTLY INCREASE SHIP AND SUBMARINE VULNERABILITY TO MAGNETIC DETECTION AND ORDNANCE.

* LOSS OF THE SPECIAL *MACHINERY ACOUSTIC SILENCING FACILITIES*, WHICH INCREASES SHIP AND SUBMARINE VULNERABILITY TO ACOUSTIC DETECTION AND ORDNANCE.

* LOSS OF ABILITY TO CONDUCT LOW COST *LAND BASED HIGH PRESSURE ACOUSTIC MEASUREMENTS OF SUBMARINE BALLASTING AND PIPING SYSTEMS.*

* LOSS OF THE *NON-CFC LABS* SEVERELY COMPROMISES NAVY'S ABILITY TO SPECIFY AND VALIDATE COMBAT SYSTEM AND CREW COOLING EQUIPMENT RESPONSIVE TO WORLDWIDE CFC PRODUCTION BAN.

* LOSS OF CAPABILITY TO IDENTIFY, ASSESS, SPECIFY, VALIDATE AND DIRECT DEVELOPMENT OF TECHNOLOGIES IN THE AREAS OF *CRYOGENICS, SUPERCONDUCTIVITY, AND POWER SEMICONDUCTORS.*

* LOSS OF NEAR-TERM AVAILABILITY OF THE *DEEP OCEAN VEHICLE SIMULATION FACILITY* (MOTHBALLED)

ENCLOSURE (12) (A)

FUNCTIONS LOST IN ALTERNATIVE SCENARIO

* LOSS OF ABILITY TO CONDUCT LOW COST *LAND BASED HIGH PRESSURE ACOUSTIC MEASUREMENTS OF SUBMARINE BALLASTING AND PIPING SYSTEMS.*

* LOSS OF THE *NON-CFC LABS* SEVERELY COMPROMISES NAVY'S ABILITY TO SPECIFY AND VALIDATE COMBAT SYSTEM AND CREW COOLING EQUIPMENT RESPONSIVE TO WORLDWIDE CFC PRODUCTION BAN.

* LOSS OF CAPABILITY TO IDENTIFY, ASSESS, SPECIFY, VALIDATE AND DIRECT DEVELOPMENT OF TECHNOLOGIES IN THE AREAS OF *CRYOGENICS, SUPERCONDUCTIVITY, AND POWER SEMICONDUCTORS.*

* LOSS OF NEAR-TERM AVAILABILITY OF THE *DEEP OCEAN VEHICLE SIMULATION FACILITY* (MOTHBALLED)

MISCELLANEOUS ISSUES RAISED BY BSAT

(1) *CONTRACT TERMINATION COSTS.* ($16,900 K IN BASELINE, $7,800 K IN ALTERNATIVE).
- * ASSUMES TERMINATION OF CONTRACTS FOR CONVENIENCE OF THE GOVERNMENT & 5% ESCALATION /YR.
- * INCLUDES 100% OF THE VALUE OF FIRM FIXED PRICE CONTRACTS, 5% OF THE VALUE OF COST/TIME REIMBURSABLE AND MATERIAL SERVICES CONTRACTS, AND 3% OF THE VALUE OF INDEFINITE DELIVERY/QUANTITY CONTRACTS.
- * REFLECTS ESTIMATED CONTRACTING LOAD OF POST BRAC 93 ANNAPOLIS FUNCTIONS AND 50/20/5-PERCENT PHASE OUT OF CONTRACTING LOAD.

(2) *POTENTIAL NET MISSION COST INCREASES*

POTENTIAL FINES ON THE ORDER OF TENS OF MILLIONS OF DOLLARS PER DAY IF CFC-114 CONVERSION SCHEDULE IS DELAYED.

(3) *ELECTROMAGNETIC FACILITY TO WHITE OAK.*

WHITE OAK IS BEING EVALUATED FOR CLOSURE. BOTH SCENARIOS INCLUDE WHITE OAK AS A RECEIVING SITE FOR THE MAGNETIC FIELDS LABORATORY PERSONNEL AND EQUIPMENT.

NON-CFC R&D PROGRAM

IN 1992 PRESIDENT BUSH SIGNED AN EXECUTIVE ORDER TO BAN CFC PRODUCTION EFFECTIVE JANUARY 1 1996.

THE BULK OF THE FLEET USES CFC-114 REFRIGERANT. NO OTHER NAVY, DOD, OR PRIVATE SECTOR SITES ARE CURRENTLY PERFORMING THE NON-CFC CONVERSION WORK THAT WOULD BE ELIMINATED.

IMPACT OF DELAY IN R&D PROGRAM: IS A CONVERSION PROGRAM DELAY WHICH IN TURN DEPLETES THE STOCKPILE OF CFC-114. CFC-114 UNITS AFFECTED BY EARLY TERMINATION ARE SSN-688, SSN-726, SSN-21, DDG-51, CG-47, DD-963, DDG-993, ETC.

POTENTIAL PENALTIES: COULD PRODUCE FINES ON THE ORDER OF TENS OF MILLIONS OF DOLLARS PER DAY.

THERE IS NO WAY TO ACCOMMODATE THE NAVY'S COOLING SYSTEM DEVELOPMENT NEEDS IF ANNAPOLIS IS CLOSED OR IF THE PROGRAM IS DELAYED AS A RESULT OF RELOCATION.

YORK INTERNATIONAL IS THE NAVY'S SOLE SUPPLIER OF CFC-114 AC PLANTS AND IS THE ONLY SUPPLIER WITH THE NECESSARY SKILLED STAFF AND LIMITED FACILITIES TO CONTINUE THIS WORK IF ANNAPOLIS WERE TO CLOSE. CURRENTLY PURSUING THEIR COMMERCIAL WORK (80,000 AC PLANTS THAT MUST BE CONVERTED OR REPLACED)

COST OF REPLICATION: ESTIMATED AT $11.2 M, EXCLUDING CLASS TWO (BUILDINGS) AND THE AC PLANTS THEMSELVES ($9 M). A BUILDING & COOLING TOWER (APPROXIMATELY 6,000 GALLONS PER MINUTE HEAT REJECTION REQUIREMENT) WOULD BE NECESSARY. IF ONE IS NOT AVAILABLE, THEN A $10 M MILCON IS NECESSARY.

IT WOULD TAKE APPROXIMATELY 18 MONTHS TO REPLICATE THE FACILITIES AND 9 MONTHS OF BASELINE OPERATION TO MAP PERFORMANCE OF THE PLANT BEFORE OPERATIONS COULD CONTINUE.

THE NON-CFC R&D PROGRAM IS SCHEDULED TO END IN FY 2002. THE R&D PROGRAM IS FOLLOWED BY FLEET IMPLEMENTATION WHICH CONTINUES THROUGH 2010.

ANNAPOLIS CLAIMS IT IS ESSENTIAL THAT R&D FACILITIES REMAIN OPERATIONAL THROUGH THAT PERIOD TO SOLVE POTENTIAL PROBLEMS WHICH OCCUR DURING IMPLEMENTATION.

TESTS REQUIRING SPECIAL CAPABILITIES OF THE DEEP OCEAN PRESSURE SIMULATION FACILITY IN THE LAST FIVE YEARS

DATE	TEST	SPONSOR
1-89	Ceramic Compaction (S,P)	Coors Ceramics
9-89	Orion Cable (S,P)	Oceaneering
4-90	CURV (S,P)	Oceaneering
6-90 thru 7-90	Noise Test (Q)	Carderock
11-90	ATV Cable (S,P)	NOSC
11-90	Rubber Panels (S,Q)	Carderock
10-91	Fiber Optic Cable (S,P)	AT&T Bell Labs
10-91	AT&T SPAWAR (S,P)	Navy
11-92	Fiber Optic Cable (S,P)	AT&T Bell Labs
11-92	Westinghouse Ceramic (O,S,P)	Westinghouse
11-92	SSN-21 Secondary Propulsion Unit (O,S)	Westinghouse
1-93	Fiber Optic Cable (S,P)	Simplex
4-93	NCEL plow test (O)	NCEL
4-93	SSN-21 Secondary Propulsion Unit (O)	Westinghouse
5-93	Sea Cliff electrical distribution system (M)	Lockheed
6-93	Fiber Optic Cable (S,P)	AT&T Bell Labs
8-93	ISMS System (O)	Oceaneering
9-93	AT&T SPAWAR (P)	AT&T Bell Labs
9-93	ISMS System (O)	Oceaneering
10-93	Ceramic Vessel Tech (S,P)	Westinghouse
1-94	Fiber Optic Cable (S,P)	Rochester Cable
5-94	Fiber Optic Cable (S,P)	Rochester Cable
6-94	Fiber Optic Cable (S,P)	AT&T Bell Labs
7-94	Holding Tank (P)	Westinghouse
12-94	Preparation for Sea Cliff manipulator (M)	Navy/Batelle

KEY: "S"- Required size of facility
"P"- Required Pressure of facility
"O"- Required orientation of facility
"Q"- Required quiet vessel
"M"- Manned submersible components evaluation & qualification

BSAT DISALLOWED COSTS--ALTERNATIVE SCENARIO

ONE-TIME UNIQUE COSTS:

$ 8,919 K DEPRECIATION OF CAPITAL EQUIPMENT.
$ 9,100 K CONTRACT TERMINATION COSTS (PER RFC-ANNAPOLIS AGREED THAT OVER HALF THE ORIGINAL CLAIMED COSTS WERE INAPPROPRIATE TO THE ALTERNATIVE SCENARIO)

ONE-TIME UNIQUE MOVING COST:

193 SUPPORT TONS DISALLOWED (PHILADELPHIA-98, WHITE OAK-6, JSC-50) - ADMIN. FACILITIES INCLUDED

[redacted] DISALLOWED PER BSEC DECISION 7 DEC 94

[redacted] – DISASSEMBLY OF MAGNETIC FIELDS LABORATORY EQUIPMENT AND SENSORS AND REASSEMBLY AND CALIBRATION

[redacted] – DISASSEMBLY OF THE ADVANCED PROPULSION MACHINERY FACILITY AND REASSEMBLY AND CALIBRATION

[redacted] – DISASSEMBLY OF THE MACHINERY ACOUSTIC SILENCING LABORATORY AND REASSEMBLY AND CALIBRATION.

[redacted] – DISASSEMBLY OF THE ADVANCED SHIPBOARD AUXILIARY MACHINERY FACILITIES AND REASSEMBLY AND CALIBRATION

[redacted] – DISASSEMBLY OF THE ADVANCED ELECTRIC PROPULSION DEVELOPMENT FACILITY AND REASSEMBLY AND CALIBRATION

[redacted] – DISASSEMBLY OF THE ELECTRIC POWER TECHNOLOGY FACILITY AND REASSEMBLY AND CALIBRATION

[redacted]2,000 K – DISASSEMBLY OF THE PULSED POWER FACILITY AND REASSEMBLY AND CALIBRATION

[redacted]1,100 K MOVE ALL JOINT SPECTRUM CENTER PROPERTY, INCLUDING INSTALLATION AND CERTIFICATION OF THE MAIN FRAME COMPUTER.

[redacted] MOVE THE THERMAL SPRAY SYSTEM FACILITY AND RECALIBRATE THE SYSTEM.

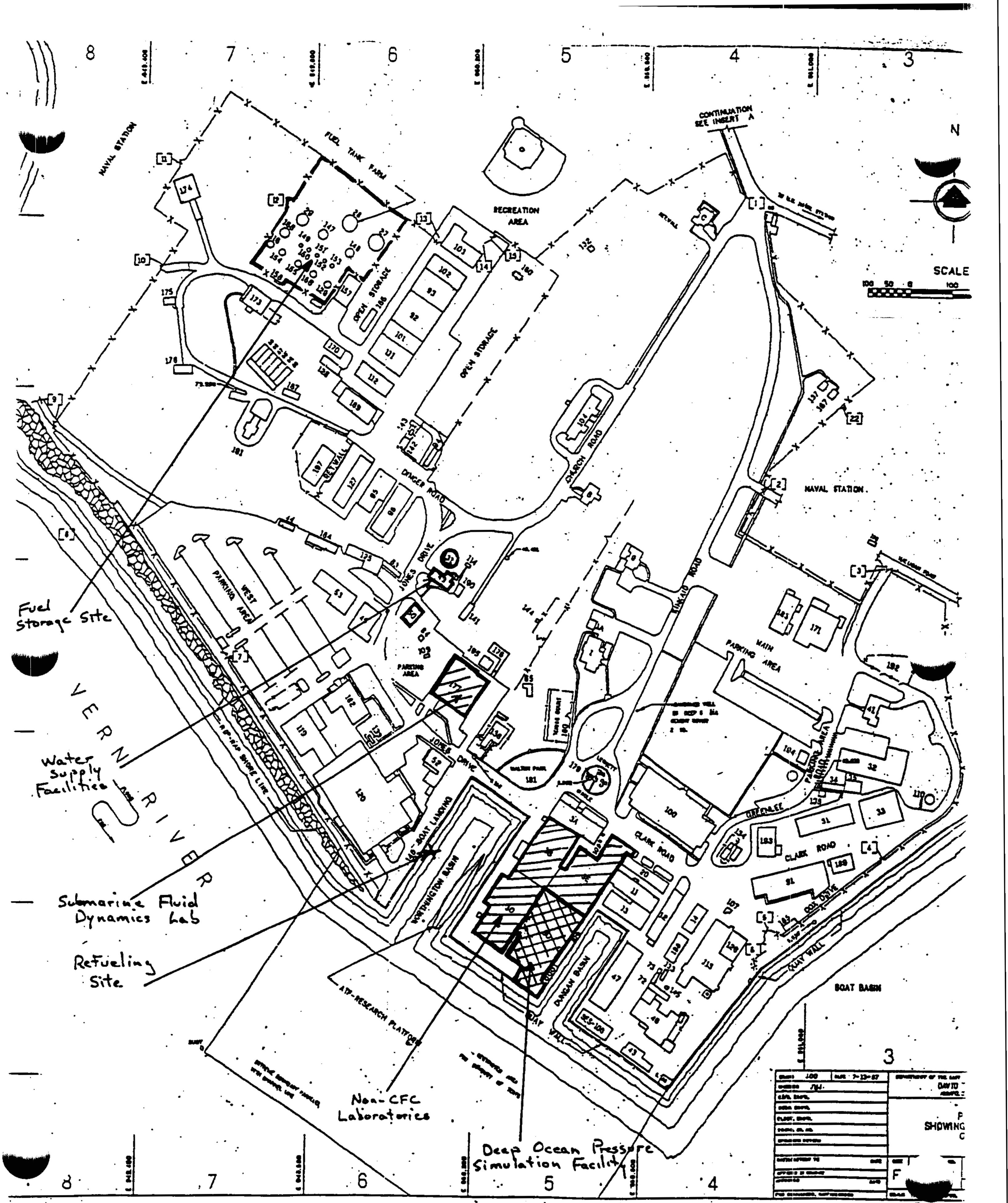
[redacted] MOVE THE POLYURETHANE PROCESSOR FACILITY AND RECALIBRATE THE SYSTEM.

[redacted] MOVE THE REACTIVE METALS SPRAY FORMING FACILITIES AND RECALIBRATE THE SYSTEMS.

GAINING BASE MISCELLANEOUS RECURRING COSTS:

[redacted] JSC LEASE COSTS

[redacted] TOTAL DISALLOWED COSTS



PART AN.4110.SITE.PROP

Excerpts from BSEC Deliberations
of 16 Nov 94
& 17 Nov 94

Technical Center Workload Capacity Data

Technical Center	1994 Civ/Mil Onboard	1994 Budgeted Workyear	1997 Budgeted Workyear	Onboard/Workyear Factor	Maximum Budgeted WY	Max Civ/Mil Onboard	Potential Expansion (Onboard)	Maximum Onbd [illegible]	Expansion (SF)	Expansion /125SF	Maximum Onboard [illegible]	Alternate Maximum Onboard	1993 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NAWC HQ	38	35.00		1.09	35.00	38	0	38	0	0	38	38	0.0	0.0	0.00	0	0
NAWC CHINA LAKE	4963	5130.00	4526.00	0.97	5910.00	5718	2594	7557	302,000	2416	7379	7557	3567.8	3147.7	0.72	4111	5433
NAWC POINT MUGU	4315	4718.00	4098.00	0.91	5969.00	5459	1120	5435	0	0	4315	5459	3423.1	2973.3	0.79	4331	4331
NAWC INDIANAPOLIS	2861	3031.00	2736.00	0.94	3383.00	3193	1415	4276	0	0	2861	4276	2639.8	2382.9	0.92	2946	3945
NAWC PAX RIVER	6100	4804.00	5939.00	1.27	6183.00	7851	0	6100	0	0	6100	7851	5335.3	6595.8	0.87	6867	6867
NAWC DET WARMINSTER	30			0.00	14.00	0	0	30	0	0	30	30	12.0	0.0	0.40	0	12
NAWC DWTF ORELAND	0			0.00	0.00	0	0	0	0	0	0	0	0.0	0.0	0.00	0	0
NAWC LAKEHURST	2120	1967.00	1825.00	1.08	2619.00	2823	43	2163	43,000	344	2464	2823	1164.0	1079.9	0.55	1550	1550
NATSD ORLANDO	967	1069.00	1050.00	0.90	1323.00	1197	150	1117	0	0	967	1197	1080.0	1060.8	1.12	1337	1337
NATSF PHILADELPHIA	247	300.00	284.00	0.82	323.00	266	0	247	0	0	247	266	206.0	195.0	0.83	222	222
NAESU LAKEHURST	86	939.00	891.00	0.09	1614.00	148	0	86	0	0	86	148	0.0	0.0	0.00	0	0
NSWC HQ	14			0.00	0.00	0	0	14	0	0	14	14	0.0	0.0	0.00	0	0
NSWC CRANE	3698	3796.00	2973.00	0.97	4002.00	3899	1225	4923	193,000	1544	5242	5242	2637.1	2065.4	0.71	2780	3738
NSWC DET LOUISVILLE	2178	2229.00	1746.00	0.98	2705.00	2643	0	2178	119,000	952	3130	3130	1463.3	1146.2	0.67	1776	2103
NSWC HTA SULLIVAN	0	3.00	3.00	0.00	3.00	0	0	0	0	0	0	0	3.0	3.0	0.00	0	3
NSWC DAHLGREN	2986	3301.20	2860.00	0.90	3429.20	3102	0	2986	0	0	2986	3102	2241.1	1941.6	0.75	2328	2328
NSWC PANAMA CITY	1299	1245.00	1156.00	1.04	1352.00	1411	168	1467	25,493	203.944	1503	1503	887.8	824.3	0.68	964	1027
NSWC PORT HUENEME	2718	2715.00	2168.00	1.00	3346.00	3350	541	3259	67,800	542.4	3260	3350	2389.0	1907.7	0.88	2944	2944
NSWC CARDEROCK	1443	1405.00	1425.00	1.03	1963.00	2016	448	1891	10,900	87.2	1530	2016	938.0	951.4	0.65	1310	1310
~~NSWC DET PHILADELPHIA~~	1673	1585.00	1614.00	1.06	1758.00	1856	0	1673	6,812	[illegible]	1727	[illegible]	[illegible]	1331.9	[illegible]	[illegible]	[illegible]
[illegible]	785	715.00	[illegible]	1.10	[illegible]	[illegible]	0	785	0	[illegible]	785	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NSWC ARD BAYVIEW	49	68.00	51.00	0.72	68.00	49	15	64	0	0	49	64	39.8	29.9	0.81	40	52
NSWC INDIAN HEAD	2293	2185.00	1895.20	1.05	2637.70	2768	32	2325	50,820	406.56	2700	2768	1333.8	1156.9	0.58	1610	1610
NSWC DET YORKTOWN	46	48.44	43.89	0.95	61.33	58	0	46	0	0	46	58	39.0	35.3	0.85	49	49
NAVSEALOGCEN MECHANICSBUR	312	298.00	308.00	1.05	374.00	392	0	312	0	0	312	392	367.0	379.3	1.18	461	461
NAVSEASUPCEN SAN DIEGO	508	463.00	329.00	1.10	494.00	542	0	508	0	0	508	542	504.0	358.1	0.99	538	538
NAVSEASUPCEN PEARL HARBOR	54	54.00	55.00	1.00	55.00	55	0	54	0	0	54	55	54.0	55.0	1.00	55	55
NUWC HQ	19	19.00	19.00	1.00	19.00	19	0	19	0	0	19	19	0.0	0.0	0.00	0	0
NUWC NEWPORT	2184	2470.00	2820.00	0.88	2881.00	2547	402	2586	88,164	705.312	2889	2889	1803.4	2058.9	0.83	2103	2386
NUWC DET NEW LONDON	1290	1312.00	510.00	0.98	1584.00	1557	800	2090	0	0	1290	2090	1091.5	424.3	0.85	1317	1768
NUWC KEYPORT	2969	2681.10	2206.90	1.11	3452.00	3823	0	2969	24,000	192	3161	3823	2253.3	1854.8	0.76	2901	2901
SEASPARROW PSO	49	52.00	65.00	0.94	65.00	61	0	49	0	0	49	61	51.0	63.8	1.04	63	61
NAVWARASSESDIV CORONA	896	1054.80	1062.80	0.85	1322.10	1123	948	1844	74,050	592.4	1488	1844	874.8	881.4	0.98	1096	1800
NAVEODTECHDIV INDIAN HEAD	327	233.00	233.00	1.40	267.00	375	0	327	0	0	327	375	152.0	152.0	0.46	174	174
NOC INDIAN HEAD	104	104.00	95.00	1.00	104.00	104	0	104	0	0	104	104	0.0	0.0	0.00	0	0
AEGIS COMBAT CENTER WALLOPS	133	388.00	345.00	0.34	388.00	133	0	133	0	0	133	133	86.0	76.5	0.65	86	86
AEGIS TECH REP MOORESTOWN	49	97.50	97.50	0.50	103.50	52	0	49	0	0	49	52	93.5	93.5	1.91	99	99
NCCOSC HQ	29			0.00	0.00	0	0	29	0	0	29	29	0.0	0.0	0.00	0	0
NCCOSC RDT&E SAN DIEGO	2789	2825.00	2416.00	0.99	3525.00	3480	1114	3903	391,895	3135.16	5924	5924	1690.8	1446.0	0.61	2110	3591
NCCOSC RDT&E DET WARMINSTER	265	291.00	292.00	0.91	303.00	276	0	265	0	0	265	276	220.3	221.1	0.83	229	229
NCCOSC ISE EAST CHARLESTON	329	347.00	620.00	0.95	628.00	595	0	329	0	0	329	595	324.0	578.9	0.98	586	586
NCCOSC ISE EAST DET NORFOLK	432	391.00	285.00	1.10	445.00	492	0	432	0	0	432	492	393.0	286.5	0.91	448	448
NCCOSC ISE WEST SAN DIEGO	816	622.00	631.00	1.31	775.00	1017	0	816	0	0	816	1017	609.6	618.4	0.75	760	760
NCCOSC ISE WEST PEARL HARBOR	136	132.00	132.00	1.03	223.00	230	0	136	0	0	136	230	170.1	170.1	1.25	288	288
NAVMASO CHESAPEAKE	387	512.00	500.00	0.76	677.00	512	0	387	0	0	387	512	531.0	518.6	1.37	703	703
NAVTECHREPO LAUREL	16	14.00	11.00	1.14	40.00	46	tenant	16	0	0	16	46	0.0	0.0	0.00	0	0
NRL	2958	3115.00	2989.00	0.95	3502.00	3325	292	3250	37,000	296	3254	3325	1887.0	1810.7	0.64	2121	2121
NRL DET UNDERWATER SOUND RE	111	118.00	100.00	0.94	127.00	119		111		0	111	119	62.8	53.2	0.57	67	67

Technical Center Workload Capacity Data

Technical Center	1994 [illegible] Onboard	1996 [illegible] Workyear	1997 Budgeted Workyear	Onboard/ [illegible] Factor	[illegible]	[illegible]	[illegible]	Maximum [illegible]	[illegible]	Expansion [illegible]	Maximum [illegible]	Alternate [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ONR	478	496.00	449.00	0.96	555.00	535	0	478	0	0	478	535	452.5	409.6	0.95	506	506
NAVFACENGSERCEN PT HUENEME	514	520.00	525.00	0.99	602.00	595	0	514	0	0	514	595	428.4	432.5	0.83	496	496
AFWTF	127	40.00	39.00	3.18	47.00	149	0	127	0	0	127	149	44.0	42.9	0.35	52	52
FTSC ATLANTIC	617	607.00	653.00	1.02	699.00	711	0	617	0	0	617	711	753.0	810.1	1.22	868	868
FTSC ATLANTIC NORFOLK	127	151.00	151.00	0.84	151.00	127	0	127	0	0	127	127	299.0	299.0	2.35	299	299
FTSC ATLANTIC MAYPORT	123	130.00	138.00	0.95	138.00	131	0	123	0	0	123	131	118.0	125.3	0.96	126	126
PMRF BARKING SANDS	254	141.00	153.00	1.80	153.00	276	0	254	0	0	254	276	244.0	264.8	0.96	265	265
NPRDC SAN DIEGO	236	231.00	167.00	1.02	371.00	379	0	236	0	0	236	379	245.3	177.3	1.04	394	394
COMOPTEVFOR NORFOLK	301	71.00	71.00	4.24	71.00	301	0	301	0	0	301	301	61.0	61.0	0.20	61	61
NCTRF NATICK	47	47.00	47.00	1.00	52.00	52	0	47	0	0	47	52	54.9	54.9	1.17	61	61
NAVMEDRESINST BETHESDA	372	162.00	162.00	2.30	166.00	381	0	372	0	0	372	381	289.0	289.0	0.78	296	296
NAVHTHRESCEN SAN DIEGO	83	150.00	165.00	0.55	165.00	91	0	83	0	0	83	91	48.0	52.8	0.58	53	53
NAVAERMEDRESLAB PENSACOLA	38	42.00	35.00	0.90	60.00	54	0	38	0	0	38	54	42.0	35.0	1.11	60	60
NAVBIOLAB NEW ORLEANS	63	66.00	46.00	0.95	86.00	82	0	63	0	0	63	82	21.0	14.6	0.33	27	27
NAVSUBMEDRESLAB GROTON	61	64.00	64.00	0.95	72.00	69	0	61	0	0	61	69	42.8	42.8	0.70	48	48
NAVDENRESINST GREAT LAKES	31	47.00	47.00	0.66	47.00	31	0	31	0	0	31	31	37.0	37.0	1.19	37	37
													47561.08			56983	63596

GENERAL SKILLS AMALGAMATION

	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Generi
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH
AHQ																													
CL		53.0		5.9	565.6			5.7	180.6		97.9		16.1		47.9	36.1	1.0	11.8	191.5	39.4	14.6	0.4	3.1			12.0	686.6	358.5	21.8
MUGU	7.5	31.7			175.8						149.1	4.0					24.1		94.6								913.1		
INDY		8.7		4.1	10.4			2.4	1.4		94.0			10.7	76.0	51.1	47.3		27.1	1.9		21.7	9.1			2.3		8.3	
PAX		1033.3			1.5						625.9	3.9			193.7	20.4	23.5		38.2	7.4	20.5	12.8				79.4	1583.9	4.4	82.6
WARM																										11.2			
OREL																													
LAKE		181.0																											
NATSD																					78.0								
NATSF																													
NAESU																													
SHQ																													
CRANE	1.9				0.6			3.0	34.1	20.8		3.0	24.8	33.1	9.9		1.5		26.1	1.9						0.5		132.7	18.9
LOUIS				4.2				24.0							14.8														
SULL																													
DAHL	2.2	3.3			77.0			80.1	182.3			82.0	13.5	6.0	48.2	1.4	14.0	24.0	48.4	64.8		12.6				28.5		281.0	49.6
PANAM												31.5		86.0					304.2					31.1					
HUEN	11.0				1.0			18.0	13.0			22.0	12.0		3.0		23.0	18.0											
CARD	[redacted]																					17.0							
PHIL	[redacted]																												
ANN	[redacted]																												
BAYV	37.1														1.2														
IHEAD					1.8				50.1						1.0		0.4	1.0	48.7		2.0		8.7					2.3	7.6
YORK									11.3						0.3														
MECH																													
SUPSD																													
SUPPH																													
UHQ																													
NPT						185.5			142.4	198.1					16.3		10.8		11.6								81.5	7.1	
NLON	3.1									6.9					541.1		68.1		30.7								3.3	3.4	
KEY						30.6											5.2		5.7										
SEASP					7.0																								
COR																													
EOD									74.9					16.4															
NOC																													
WALL																													
MOOR												76.5			2.8							2.2							
CHQ																													
OSSD	5.1					14.9			1.4				62.0	15.1	329.1	13.0	396.6		27.1			1.6		16.8	19.9	1.7	3.7		192.1
OSWAR													15.8		7.2	52.3	13.2												2.9
ISECH																													
ISENOR																	3.0												
ISESD															14.2		11.0												
ISEPH																													
MASO																													
LAUR																													
NRL	16.4	1.7	72.0					0.9	14.7			3.0		2.6	316.2	6.3	74.5	18.4	254.4	42.3			0.6		164.8	20.2		9.8	660.7
NRLUW															59.5														
ONR	29.6	12.7	0.3	1.1	4.4	6.3	1.2	4.3	8.6	0.6	0.9	0.7	2.5	4.0	72.9	0.4	5.4		20.4	0.2	6.1	2.5	2.2	0.2	17.6	6.4	0.3	172.7	68.0
FAC														18.1	20.6							4.0	86.1	3.5	16.0		17.1	0.5	16.0
AFWTF																													
FLNT																													
FNOR																													
FMAY																													
BARK																													
NPRDC														1.7							115.2							0.5	

GENERAL SKILLS AMALGAMATION

RDT&E (RDTE)

	Platform				Weapons Systems					Combat Sys Integration				Spec
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC
OPTEV														
NCTRF														
BETH									15.0					21.0
HLTH														
MEDPEN														
BIOLAB														
SUBMED													0.9	
DENGL														
	1242.5	1325.4	72.3	15.3	845.1	237.3	1.2	138.4	729.8	226.4	967.8	226.6	147.6	214.7

	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Generi
	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech
ABBR	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH
OPTEV														61.0	
NCTRF												24.9			
BETH										60.0		190.0			
HLTH							7.0					41.0			
MEDPEN							42.0								
BIOLAB												21.0			
SUBMED										13.6		9.7			
DENGL												37.0			
	1775.9	181.0	722.6	73.2	1128.8	157.9	285.4	74.8	109.7	125.2	218.2	485.7	3289.5	1042.1	1120.2

A [redacted]

	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Gener
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH
AHQ																													
CL		3.4		2.3	336.0	0.5		7.0	66.8		132.9		0.3		1.0	6.6	21.8		27.2		11.6	4.8				1.0	0.6	15.7	
MUGU	5.7	44.3			95.1			2.3			6.0	5.0							135.0		8.9						33.8		
INDY		3.8			95.4	1.0		2.9	329.0		109.4			180.7	289.3	46.4	285.2		65.8	36.1	18.3	174.9	4.6			36.7		261.7	
PAX		311.8			8.8						377.2	2.4		60.1	52.0	5.6	55.7		84.6		29.1	13.8				23.6	148.8		
WARM																													
OREL																													
LAKE		638.4																											
NATSD																					666.0							204.0	
NATSF																						206.0							
NAESU																													
SHQ																													
CRANE					7.0			87.1	192.0	54.6	0.3	59.1		44.8	211.1	0.3	9.7		83.5	165.9		0.8				1.9		70.5	0.4
LOUIS	7.9	1.6		0.1	1.7		3.0	370.7	87.8			0.1			41.9				0.1									0.2	
SULL															3.0														
DAHL	3.0				80.4			32.3	189.0			83.0			29.3		19.8		57.4	93.9	7.3		25.9			2.4		50.3	
PANAM							11.0				15.1			33.8					40.7					26.8					
HUEN	14.0				88.0		12.0	56.0	328.0			190.0	10.0		43.0		8.0		16.0		1.0								
CARD	[redacted]																					8.0							
PHIL	[redacted]											20.0																	
ANN	[redacted]																												
BAYV															1.5														
IHEAD					64.8		7.8	3.8	635.4						6.0		1.0		68.9	3.0	19.5	2.4	3.9					34.0	
YORK							1.4		20.4						0.3			0.3	0.2									0.2	
MECH																						114.0							14.0
SUPSD																													
SUPPH																													
UHQ																													
NPT						155.2			55.1	213.6					14.1		10.2		2.7								40.0	0.5	
NLON									0.2	4.0					178.1		6.2		15.6								1.5		
KEY					11.0	323.9			10.3						7.2				38.1			40.0		10.4			45.1	0.4	
SEASP																													
COR																													
EOD									14.9					1.9															
NOC																													
WALL																													
MOOR									5.8			2.9																	
CHQ																													
OSSD					8.9	57.0			6.8				8.1		56.9		258.7		1.8	1.0					1.3				19.1
OSWAR																36.5	11.0			51.0	3.6								
ISECH																	17.0			17.0									
ISENOR															6.0		97.0		5.0										
ISESD																													
ISEPH																													
MASO																	531.0												
LAUR																													
NRL																													
NRLUW																													
ONR																													
FAC																						1.9	54.9						13.2
AFWTF																													
FLNT								10.0	4.0				38.0															8.0	
FNOR																													
FMAY																													
BARK																													
NPRDC																					27.8							18.5	

ACQUISITION (ACQ)

	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Gener
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH
OPTEV																													
NCTRF																										10.4			
BETH																													
HLTH																													
MEDPEN																													
BIOLAB																													
SUBMED															7.3		1.0												
DENGL																													
	431.3	1003.3	0.0	2.4	797.1	537.6	35.2	572.1	1945.5	272.2	640.9	362.5	56.4	321.3	948.0	95.4	1333.3	0.3	642.6	367.9	793.1	566.6	89.3	37.2	1.3	76.0	269.8	664.0	46.7

[redacted]

ABBR	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Gener
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH
AHQ																													
CL		13.5		1.6	109.6			0.9	11.0		85.5		1.0		6.7	9.5			9.6	44.3	5.1	3.8	19.8			6.6	3.1	26.0	
MUGU	13.5	35.9			480.4			23.1	28.2		112.0								41.0		9.3						569.0		
INDY		2.6			58.0				27.2		12.1				44.2		11.2		16.4	25.8		72.0				0.6		15.9	
PAX		48.4			3.9		1.1				93.4	0.9			10.1		11.8		0.1		14.5	0.6				29.7	64.6	52.7	
WARM																										0.8			
OREL																													
LAKE		344.5																											
NATSD																					132.0								
NATSF																													
NAESU																													
SHQ																													
CRANE	19.5			4.2	62.3			108.3	183.3		0.1	54.3		53.8	189.6		6.9		458.5	90.6		0.9	15.0			17.3		66.4	
LOUIS	3.8			4.2				703.0	94.4			29.2			5.8					0.9			14.9					46.0	
SULL																													
DAHL	47.8							48.7	32.5			38.4	2.4		22.6	4.7	13.2		31.3	138.3	3.6		12.7		8.3			34.0	
PANAM							55.0				3.2	0.8		48.8					98.8					16.1				31.3	
HUEN	17.0				51.0		62.0	38.0	673.0			439.0	18.0	1.0	59.0		34.0		82.0		6.0								
CARD	[redacted]																												
PHIL										53.0		87.0										47.0				6.0			
ANN																													
BAYV																													
IHEAD					97.8	0.7		1.4	164.5							0.5			0.2	10.8	22.4	22.0	0.4					23.5	
YORK									4.5																			0.1	
MECH																1.0						184.0							54.0
SUPSD																						504.0							
SUPPH																						54.0							
UHQ																													
NPT						98.8			28.3	323.7					81.9		9.3		4.9								38.6	71.1	
NLON										0.6					184.9		14.7		8.7								8.1	0.8	
KEY						1092.3	50.8		205.1						97.0		11.6		26.5				20.6	6.6			142.9	45.3	
SEASP									44.0																				
COR																													
EOD									43.9																				
NOC																													
WALL												66.0																	
MOOR												2.6										0.8							
CHQ																													
OSSD	2.0	0.2			1.5	1.5			29.2						43.5	2.7	24.4		22.0						4.8		8.3		0.5
OSWAR																13.8	9.0												
ISECH																3.0	190.0								21.0			4.0	65.0
ISENOR												16.0			33.0		203.0					13.0						17.0	
ISESD															99.8	34.2	310.4					126.8					13.2		
ISEPH																	170.1												
MASO																													
LAUR																													
NRL																													
NRLUW																													
ONR																													
FAC														6.9			0.9						96.9	1.0					1.9
AFWTF																													
FLNT	365.0	40.0						30.0	100.0	1.0	1.0	17.0			4.0	6.0	18.0		4.0			102.0							
FNOR	150.0							17.0	12.0						48.0	11.0	53.0		8.0										
FMAY	81.0	8.0						5.0	16.0			4.0										4.0							
BARK																													
NPRDC																					62.0							7.6	

LIFE TIME SUPPORT (LIFE)

	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Gener
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH
OPTEV																													
NCTRF																													
BETH																										19.6			
HLTH																										3.0			
MEDPEN																													
BIOLAB																													
SUBMED															9.3														
DENGL																													
	1596.6	493.1	0.0	10.0	864.5	1193.3	168.9	975.4	1697.1	378.3	307.3	755.2	21.4	110.5	939.4	86.4	1091.5	0.0	812.0	310.7	254.9	1134.9	180.3	23.7	34.1	83.6	847.8	441.7	121.4

	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Generic	Tech		Maximum
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech	center	Proj tech	technical
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH	total	workld 97	workload
AHQ																														0.0	0.0	0.0
CL		1.5			64.8			0.1	12.8		3.4		0.1					4.5			2.5						4.9	126.6		3567.8	3147.7	5433.0
MUGU	39.3	32.7	2.2		47.2		1.4	4.4	18.5	4.4	21.8	17.4	32.7	7.0	6.5	7.8	10.4	4.4	6.5								109.8	0.3		3423.1	2973.3	4331.0
INDY					0.4						0.3						9.4		13.7		5.2	3.1						4.0		2639.8	2382.9	3945.0
PAX		2.0																	27.6									69.0		5335.3	6595.8	6867.0
WARM																														12.0	0.0	12.0
OREL																														0.0	0.0	0.0
LAKE		0.1																												1164.0	1079.9	1550.0
NATSD																														1080.0	1060.8	1337.0
NATSF																														206.0	195.0	222.0
NAESU																														0.0	0.0	0.0
SHQ																														0.0	0.0	0.0
CRANE									1.0								3.3													2637.1	2065.4	3738.0
LOUIS								3.0																						1463.3	1146.2	2103.0
SULL																														3.0	3.0	3.0
DAHL					6.2			17.1				8.9	22.9		2.0			48.7										3.9		2241.1	1941.6	2328.0
PANAM														8.5					38.6					6.5						887.8	824.3	1027.0
HUEN												10.0	7.0	1.0			2.0				2.0									2389.0	1907.7	2944.0
CARD																														938.0	951.4	1310.0
PHIL	[redacted]																													1308.0	1331.9	1451.0
ANN																														454.3	273.9	513.0
BAYV																														39.8	29.9	52.0
IHEAD																					15.5									1333.8	1156.9	1610.0
YORK																														39.0	35.3	49.0
MECH																														367.0	379.3	461.0
SUPSD																														504.0	358.1	538.0
SUPPH																														54.0	55.0	55.0
UHQ																														0.0	0.0	0.0
NPT						0.4																						1.7		1803.4	2058.9	2386.0
NLON	1.6														4.0		1.0		0.2									4.7		1091.5	424.3	1768.0
KEY																					26.7									2253.3	1854.8	2901.0
SEASP																														51.0	63.8	61.0
COR																												874.8		874.8	881.4	1800.0
EOD																														152.0	152.0	174.0
NOC																														0.0	0.0	0.0
WALL																					20.0									86.0	76.5	86.0
MOOR																														93.5	93.5	99.0
CHQ																														0.0	0.0	0.0
OSSD								0.1							0.1		29.0				0.6							1.0		1690.8	1446.0	3591.0
OSWAR																	4.0													220.3	221.1	229.0
ISECH																	7.0													324.0	578.9	586.0
ISENOR																														393.0	286.5	448.0
ISESD																														609.6	618.4	760.0
ISEPH																														170.1	170.1	288.0
MASO																														531.0	518.6	703.0
LAUR																														0.0	0.0	0.0
NRL	5.1	0.1	2.5		1.4							0.3	0.3		58.6	2.9	49.8		35.4		0.2		0.4		2.2	2.2		25.3	18.8	1884.6	1810.7	2121.0
NRLUW															3.3															62.8	53.2	67.0
ONR																														452.5	409.6	506.0
FAC																					0.2	29.6	37.2						2.0	428.4	432.5	496.0
AFWTF																											44.0			44.0	42.9	52.0
FLNT																						5.0								753.0	810.1	868.0
FNOR																														299.0	299.0	299.0
FMAY																														118.0	125.3	126.0
BARK																											244.0			244.0	264.8	265.0
NPRDC																					8.1							3.9		245.3	177.3	394.0

GENERAL (GEN)

	Platform				Weapons Systems					Combat Sys Integration				Spec	Sensor &	Nav	C4I	Defense Sys		Strat	General Mission Support								Generic	Tech		Maximum
	Ship	Air	Space	Ground	Miss.	Torp.	Mine	Gun	Other	Sub	Air	Surface	Multi	Ops	Surv Sys			BMD	Other	Sys.	Trng	Log	Fac	Div	Env Desc	Crew	Ranges	Other	Tech	center	Proj tech	technical
ABBR	SHIP	AIR	SPACE	GRD	MISS	TORP	MINE	GUN	WSOTH	CSISUB	CSIAIR	CSISURF	CSIMUL	SPEC	SENS	NAV	C4I	BMD	DOTH	STRAT	TRNG	LOG	FAC	DIVE	ENVR	CREW	RANGE	GOTH	TECH	total	workld 97	workload
OPTEV																														61.0	61.0	61.0
NCTRF																														54.9	54.9	61.0
BETH																														289.0	289.0	296.0
HLTH																														48.0	52.8	53.0
MEDPEN																														42.0	35.0	60.0
BIOLAB																														21.0	14.6	27.0
SUBMED																					1.1									42.8	42.8	48.0
DENGL																														37.0	37.0	37.0
	82.0	36.4	4.7	0.0	120.0	0.4	1.4	24.7	32.3	4.4	25.5	36.6	63.0	16.5	74.5	10.7	115.9	57.6	122.0	0.0	82.0	37.7	37.6	6.5	2.2	2.2	402.7	1115.2	20.9	47558.6	44352.4	63596.0

Percent of requirement used: [redacted]

[redacted]

TechCtrs	CL	MUGU	INDY	PAX	LAKE	WARM	NATSD	NATSF	CRANE	LOUIS	DAHL	PANAM	HUEN	CARD	PHIL	[redacted]	BAYV	IHEAD	SULL	YORK
Milval	59.61	54.62	36.66	51.17	34.95	19.97	30.07	11.09	38.58	31.16	45.47	37.14	31.45	35.83	26.94	27.75	18.70	38.90	5.77	14.56
Capacity	4111	4331	2946	6867	1550	12	1337	222	2780	1776	2328	964	2944	1310	1451	513	40	1610	3	49
Cur. workload	3568	3423	2640	5335	1164	12	1080	206	2637	1463	2241	888	2389	938	1308	454	40	1334	3	39
Fut. workload	3148	2973	2383	6596	1080	12	1061	195	2065	1146	1942	824	1908	951	1332	274	30	1157	3	35
[redacted]	1	1	0	1	0	1	1	1	0	1	1	1	1	[redacted]	[redacted]	[redacted]	1	0	0	1
RDTE																				
SHIP		14.65							0		1.52		7.03	755.45	[redacted]	0	22.3			
AIR	37.41	57.71	0	1124.81	0						2.29									
SPACE																				
GRD	7.13		0							2.63										
MISS	399.23	165.37	0	1.48					0		19.29		0.64					0		
TORP																				
MINE																				
GUN	4.65		0						0	15.04	57.4		11.5							
WSOTH	254.23		0						0		129.86		8.3					0		8.18
CSISUB									0											
CSIAIR	69.1	217.23	0	573.27																
CSISURF		7.9		7.7					0		73.27	57.37	14.05							
CSIMUL	30.63								0		18.31		7.67							
SPEC			0						0		4.16	113.4								
SENS	71.34		0	269.4					0	0	33.41		1.92				0.72	0		0.22
NAV	64.95		0	38.33							2.79									
C4I	1.99	44.8	0	35.1					0		26.8		14.69					0		
BMD	8.33										16.63		11.5					0		
DOTH	135.17	149.6	0	36.04					0		33.55	225.95						0		
STRAT	27.81		0	12.41					0		0									
TRNG	27.9			38.51			121.46											0		
LOG	0		0	13.05							8.73			32.26						
FAC	6.14		0															0		
DIVE												56.71								
ENVR																				
CREW	23.11		0	129.25		11.2			0		52.34									
RANGE	484.63	635.52		1566.49																
GOTH	373.92		0	8.68					0		205.46							0		
TECH	15.39			81.69					0		34.38							0		
ACQ																				
SHIP		25.84								4.95	2.08		8.94	123.5	165.37	0				
AIR	6.73	135.75	0	675.65	0					1										
SPACE																				
GRD	1.62									0.06										
MISS	237.16	150.25	0	8.7					0	1.07	89.8		56.22					0		
TORP	0.35		0																	
MINE										1.88		13.58	7.67					0		1.01
GUN	13.69	4.57	0						0	232.29	58.7		47.04					0		
WSOTH	353.26		0						0	55.02	263.97		318.76					0		14.77
CSISUB									0											

Percent of requirement used: Baseline

Best solution

TechCtrs	CL	MUGU	INDY	PAX	LAKE	WARM	NATSD	NATSF	CRANE	LOUIS	DAHL	PANAM	HUEN	CARD	PHIL	ANN	BAYV	IHEAD	SULL	YORK
Milval	59.61	54.62	36.66	51.17	34.95	19.97	30.07	11.09	38.58	31.16	45.47	37.14	31.45	35.83	26.94	27.75	18.70	38.90	5.77	14.56
Capacity	4111	4331	2946	6867	1550	12	1337	222	2780	1776	2328	964	2944	1310	1451	513	40	1610	3	49
Cur. workload	3568	3423	2640	5335	1164	12	1080	206	2637	1463	2241	888	2389	938	1308	454	40	1334	3	39
Fut. workload	3148	2973	2383	6596	1080	12	1061	195	2065	1146	1942	824	1908	951	1332	274	30	1157	3	35
OPEN	1	1	0	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	0	1
CSIAIR	93.81	37.61	0	418.8					0			11.22								
CSISURF		17.74		4.76					0	0.06	80.22		121.38		16.29					
CSIMUL	0.21												6.39							
SPEC			0	101.95					0			142.68								
SENS	1.99		0	257.49					0	35.53	53.69		76				0.9	0	0	0.22
NAV	23.87		0	49.33					0											
C4I	40.79		0	139.21					0		37.27		15.6					0		
BMD																				0.22
DOTH	19.2	303.68	0	30.05					0	0.06	39.78	30.23	10.22					0		0.14
STRAT			0						0		236.82							0		
TRNG	22.37	17.31	0	49.19			523.33				5.06		0.64					0		
LOG	10.25		0	51.03				156	0					47.86				0		
FAC			0								23.98							0		
DIVE												19.91								
ENVR																				
CREW	4.7		0	43.94					0		4.76									
RANGE	0.42	23.95		147.16																
GOTH	211.12		0				160.3		0	0.13	87.31							0		0.14
TECH									0											
LIFE																				
SHIP		21.6							0	2.38	33.13		10.86	33.27	697.31					
AIR	25.89	142.66	0	171.1	0															
SPACE																				
GRD	3.76								0	2.63										
MISS	77.36	482.6	0	3.86					0				32.58					0		
TORP																		0		
MINE				1.09								40.85	39.61							
GUN	1.79	47.63							0	440.53	69.84		24.28					0		
WSOTH	21.25	51.83	0						0	59.15	59.04		429.93					0		3.26
CSISUB															43.17					
CSIAIR	60.35	86.63	0	92.37					0			2.38								
CSISURF				3.26					0	18.3	68.67	1.6	280.45		70.87					
CSIMUL	0.71										1.66		11.5							
SPEC									0			69.96	0.64							
SENS	13.12		0	19.57					0	3.63	42.19		93.83							
NAV	31.36										9.26							0		
C4I			0	118.19					0		62.6		61.51							
BMD																				
DOTH	6.78	273.14	0	53.72					0		21.69	73.39	52.38					0		
STRAT	78.04		0						0	0.56	131.98							0		
TRNG	10.04	35.37		27.72		0.64	103.72				5.17		3.83					0		

Percent of requirement used: Baseline

Best solution

TechCtrs	CL	MUGU	INDY	PAX	LAKE	WARM	NATSD	NATSF	CRANE	LOUIS	DAHL	PANAM	HUEN	CARD	PHIL	ANN	BAYV	IHEAD	SULL	YORK
Milval	59.61	54.62	36.66	51.17	34.95	19.97	30.07	11.09	38.58	31.16	45.47	37.14	31.45	35.83	26.94	27.75	18.70	38.90	5.77	14.56
Capacity	4111	4331	2946	6867	1550	12	1337	222	2780	1776	2328	964	2944	1310	1451	513	40	1610	3	49
Cur. workload	3568	3423	2640	5335	1164	12	1080	206	2637	1463	2241	888	2389	938	1308	454	40	1334	3	39
Fut. workload	3148	2973	2383	6596	1080	12	1061	195	2065	1146	1942	824	1908	951	1332	274	30	1157	3	35
OPEN	1	1	0	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	0	1
LOG	16.96		0	27.63					0						82.24			0		
FAC	13.98								0	9.34	8.8							0		
DIVE												11.96								
ENVR											5.75									
CREW	12.93		0	34.78					0						4.89					
RANGE	2.19	408.62		63.89																
GOTH	48.08		0	90.95					0	28.83	23.56	53.01						0		0.07
TECH																				
GEN																				
SHIP		27.81													29.33					
AIR	1.06	22.8		1.98	0															
SPACE		1.53																		
GRD																				
MISS	45.74	33.09	0								4.3									
TORP																				
MINE		0.97																		
GUN	0.07	3.06								1.88	11.85									
WSOTH	9.03	13.48							0											
CSISUB		3.06																		
CSIAIR	2.4	15.37	0																	
CSISURF		12.09									6.17		6.39							
CSIMUL	0.07	22.72									15.87		4.47							
SPEC		4.86										6.31	0.64							
SENS		8									1.39									
NAV		5.42																		
C4I		19.61	0						0				1.28							
BMD	3.18	3.06									33.75									
DOTH		12.73	0	29.03								28.67								
STRAT																				
TRNG	1.76		0										1.28					0		
LOG			0																	
FAC																				
DIVE												4.83								
ENVR																				
CREW																				
RANGE	3.46	76.3																		
GOTH	535.02	0.6	0	214.4							7.7									
TECH																				
Total	4111.0	3846.1	0.0	6867.0	0.0	11.8	908.8	156.0	0.0	917.0	2328.0	964.0	1801.6	992.3	1109.5	0.0	23.9	0.0	0.0	28.2
Pct. excess	0.0	11.2	0.0	-0.0	0.0	1.3	32.0	29.7	0.0	48.4	0.0	-0.0	38.8	24.2	23.5	0.0	40.2	0.0	0.0	42.4

TechCtrs	MECH	SUPSD	SUPPH	NPT	NLON	KEY	SEASP	COR	EOD	WAL	MOOR	OSSD	OSWA	ISECH	ISENO	ISESD	ISEPH	MASO	NRL	NRLU
Milval	12.76	11.02	11.00	50.62	36.80	37.73	11.34	19.81	18.86	25.29	21.96	46.67	25.20	19.31	18.13	20.97	19.52	14.24	38.80	17.83
Capacity	461	538	55	2103	1317	2901	63.8	1096	174	86	99	2110	229	586	448	760	288	703	2121	67
Cur. workload	367	504	54	1803	1092	2253	51	875	152	86	94	1691	220	324	393	610	170	531	1885	63
Fut. workload	379	358	55	2059	424	1855	64	881	152	77	94	1446	221	579	287	618	170	519	1811	53
OPEN	1	1	1	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	1	0
RDTE																				
SHIP					0							3.49							31.18	
AIR																			3.38	
SPACE																			55.33	
GRD																				
MISS							7.01													
TORP				169.42		20.15						10.19								
MINE																				
GUN																			1.79	
WSOTH				110.24					0			2.79							28.09	
CSISUB				196.11	0															
CSIAIR																				
CSISURF											0								5.94	
CSIMUL												42.41	0							
SPEC									0			17.02							5.16	
SENS				30.99	0						0	225.12	0			0			410.71	0
NAV												20.84	0						12.35	
C4I				9.86	0	10.23						218.78	0		0	0			122.49	
BMD																			14.83	
DOTH				10.59	0	0.89						18.54							195.5	
STRAT																			74.89	
TRNG																				
LOG											0	3.18								
FAC																			1.2	
DIVE												25.89								
ENVR												13.61							126.64	
CREW												3.38							37.98	
RANGE				74.44	0							2.53								
GOTH				0	0														19	
TECH												131.16	0						527.42	
ACQ																				
SHIP																				
AIR																				
SPACE																				
GRD																				
MISS						7.24						6.09								
TORP				141.75		214.02						38.99								
MINE																				
GUN																				
WSOTH				295.61	0	19.94			0		0	13.31								
CSISUB				230.54	0															

TechCtrs	MECH	SUPSD	SUPPH	NPT	NLON	KEY	SEASP	COR	EOD	WAL	MOOR	OSSD	OSWA	ISECH	ISENO	ISESD	ISEPH	MASO	NRL	NRLU
Milval	12.76	11.02	11.00	50.62	36.80	37.73	11.34	19.81	18.86	25.29	21.96	46.67	25.20	19.31	18.13	20.97	19.52	14.24	38.80	17.83
Capacity	461	538	55	2103	1317	2901	63.8	1096	174	86	99	2110	229	586	448	760	288	703	2121	67
Cur. workload	367	504	54	1803	1092	2253	51	875	152	86	94	1691	220	324	393	610	170	531	1885	63
Fut. workload	379	358	55	2059	424	1855	64	881	152	77	94	1446	221	579	287	618	170	519	1811	53
OPEN	1	1	1	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	1	0
CSIAIR																				
CSISURF											0									
CSIMUL												5.54								
SPEC									0											
SENS				53.34	0	14.07						97.23			0					
NAV													0							
C4I				19.76	0							717.9	0	24.3	0			0		
BMD																				
DOTH				0	0	27.95						0			0					
STRAT												1.99	0	24.3						
TRNG													0							
LOG	82.07					71.24														
FAC																				
DIVE						6.85														
ENVR												0.89								
CREW																				
RANGE				36.53	0	29.7														
GOTH				14.88		0.8														
TECH	11.58											13.32								
LIFE																				
SHIP												1.37								
AIR												0.4								
SPACE																				
GRD																				
MISS												1.03								
TORP				90.24		719.79						1.03								
MINE						33.45														
GUN																				
WSOTH				52		302.49	44.03		0			27.92								
CSISUB				295.84	0															
CSIAIR																				
CSISURF										46.97	0				0					
CSIMUL																				
SPEC																				
SENS				132.66	0	166.81						76.78			0	0				
NAV	0.83											5.35	0	5.94		0				
C4I				27.3	0	22.37						313.97	0	271.58	0	0	0			
BMD																				
DOTH				6.94	0	17.45						16.28								
STRAT																				
TRNG																				

TechCtrs	MECH	SUPSD	SUPPH	NPT	NLON	KEY	SEASP	COR	EOD	WAL	MOOR	OSSD	OSWA	ISECH	ISENO	ISESD	ISEPH	MASO	NRL	NRLU
Milval	12.76	11.02	11.00	50.62	36.80	37.73	11.34	19.81	18.86	25.29	21.96	46.67	25.20	19.31	18.13	20.97	19.52	14.24	38.80	17.83
Capacity	461	538	55	2103	1317	2901	63.8	1096	174	86	99	2110	229	586	448	760	288	703	2121	67
Cur. workload	367	504	54	1803	1092	2253	51	875	152	86	94	1691	220	324	393	610	170	531	1885	63
Fut. workload	379	358	55	2059	424	1855	64	881	152	77	94	1446	221	579	287	618	170	519	1811	53
OPEN	1	1	1	1	0	1	1	0	0	1	0	1	0	1	0	0	0	0	1	0
LOG	169.89	286.48	44								0				0	0				
FAC						23.24														
DIVE						4.35														
ENVR												3.28		30.02						
CREW																				
RANGE				35.25	0	94.1						5.68				0				
GOTH				0	0	80.4								5.72	0					
TECH	44.65											0.34		92.91						
GEN																				
SHIP					0														3.92	
AIR																			0.08	
SPACE																			1.92	
GRD																				
MISS																			1.08	
TORP				0.37																
MINE																				
GUN												0.07								
WSOTH																				
CSISUB																				
CSIAIR																				
CSISURF																			0.23	
CSIMUL																			0.23	
SPEC																				
SENS					0							0.07							45.03	0
NAV																			2.23	
C4I					0							19.84	0	10.01					38.27	
BMD																				
DOTH					0														27.2	
STRAT																				
TRNG						36.53				14.23		0.41							0.4	
LOG																				
FAC																			0.31	
DIVE																				
ENVR																			1.69	
CREW																			1.69	
RANGE																				
GOTH				68.32	0			0				1.99							65.88	
TECH																			14.45	
Total	309.0	286.5	44.0	2103.0	0.0	1924.1	51.0	0.0	0.0	61.2	0.0	2110.0	0.0	464.8	0.0	0.0	0.0	0.0	1878.5	0.0
Pct. excess	33.0	46.8	20.0	0.0	0.0	33.7	20.0	0.0	0.0	28.8	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.0	11.4	0.0

TechCtrs	ONR	FAC	AFW	FLNT	FNOR	FMAY	BARK	NPRDC	OPTEV	NCTRF	BETH	HLTH	MEDPE	BIOLAB	SUBMED	DENGL	
Milval	18.58	22.68	20.53	17.62	13.70	18.13	26.15	19.57	13.35	19.43	14.77	15.58	18.06	14.25	14.91	18.00	Total
Capacity	506	496	52	868	299	126	265	394	61	61	296	53	60	27	48	37	56999
Cur. workload	453	429	44	753	299	118	244	245	61	55	289	48	42	21	43	37	47560
Fut. workload	410	433	43	810	299	125	265	177	61	55	289	53	35	15	43	37	44365
OPEN	1	1	1	1	1	1	1	0	0	1	0	1	0	0	1	1	35
RDTE																	
SHIP	21.43																857.1
AIR	9.2																1234.8
SPACE	0.22																55.6
GRD	0.8																10.6
MISS	3.19																596.2
TORP	4.56																204.3
MINE	0.87																0.9
GUN	3.11																93.5
WSOTH	6.23										0						
CSISUB	0.43																196.5
CSIAIR	0.65																860.3
CSISURF	0.51																166.7
CSIMUL	1.81														0.72		101.6
SPEC	2.9	14.62						0			0						157.3
SENS	52.79	16.63															1113.3
NAV	0.29																139.6
C4I	3.91																488.7
BMD																	51.3
DOTH	14.77																820.6
STRAT	0.14																115.3
TRNG	4.42							0				6.16	0				198.5
LOG	1.81	0															59.0
FAC	1.59	77.44															86.4
DIVE	0.14	2.83									0				10.85		96.4
ENVR	12.75	12.92															165.9
CREW	12.54									31	0	46		0	12.23	37	396.0
RANGE	0.22	13.81															2777.6
GOTH	125.06	0.4						0	0								732.5
TECH	49.24	12.92															852.2
ACQ																	
SHIP																	330.7
AIR																	819.1
SPACE																	0.0
GRD																	1.7
MISS																	556.5
TORP																	395.1
MINE																	24.1
GUN				8.61													364.9
WSOTH				3.44													
CSISUB																	230.5

Avg MV 26.79
Avg MV change (%) 6.13
Retained capacity 41577.8
Percent reduction 27.05

TechCtrs	ONR	FAC	AFW	FLNT	FNOR	FMAY	BARK	NPRDC	OPTEV	NCTRF	BETH	HLTH	MEDPE	BIOLAB	SUBMED	DENGL	
Milval	18.58	22.68	20.53	17.62	13.70	18.13	26.15	19.57	13.35	19.43	14.77	15.58	18.06	14.25	14.91	18.00	Total
Capacity	506	496	52	868	299	126	265	394	61	61	296	53	60	27	48	37	56999
Cur. workload	453	429	44	753	299	118	244	245	61	55	289	48	42	21	43	37	47560
Fut. workload	410	433	43	810	299	125	265	177	61	55	289	53	35	15	43	37	44365
OPEN	1	1	1	1	1	1	1	0	0	1	0	1	0	0	1	1	35
CSIAIR																	561.4
CSISURF																	240.5
CSIMUL				32.71													44.9
SPEC																	244.6
SENS															5.83		596.3
NAV																	73.2
C4I															0.8		995.6
BMD																	0.2
DOTH																	461.3
STRAT																	263.1
TRNG								0									617.9
LOG		11.67															430.1
FAC		44.33															68.3
DIVE																	26.8
ENVR																	0.9
CREW										8.32							61.7
RANGE																	237.8
GOTH				6.89				0									481.6
TECH		10.66															35.6
LIFE																	
SHIP				314.14	120	68.81											1302.9
AIR				34.43		6.8											381.3
SPACE																	0.0
GRD																	6.4
MISS																	597.4
TORP																	811.1
MINE																	115.0
GUN				25.82	13.6	4.25											627.7
WSOTH				86.07	9.6	13.59											
CSISUB				0.86													339.9
CSIAIR				0.86													242.6
CSISURF				14.63		3.4											508.2
CSIMUL																	13.9
SPEC		5.57															76.2
SENS				3.44	38.4										7.42		597.9
NAV				8.52	8.8												70.1
C4I		0.73		15.49	42.4												936.1
BMD																	0.0
DOTH				3.44	6.4												531.6
STRAT																	210.6
TRNG								0									186.5

TechCtrs	ONR	FAC	AFW	FLNT	FNOR	FMAY	BARK	NPRDC	OPTEV	NCTRF	BETH	HLTH	MEDPE	BIOLAB	SUBMED	DENGL	
Milval	18.58	22.68	20.53	17.62	13.70	18.13	26.15	19.57	13.35	19.43	14.77	15.58	18.06	14.25	14.91	18.00	Total
Capacity	506	496	52	868	299	126	265	394	61	61	296	53	60	27	48	37	56999
Cur. workload	453	429	44	753	299	118	244	245	61	55	289	48	42	21	43	37	47560
Fut. workload	410	433	43	810	299	125	265	177	61	55	289	53	35	15	43	37	44365
OPEN	1	1	1	1	1	1	1	0	0	1	0	1	0	0	1	1	35
LOG				159.21		7.9											794.3
FAC		78.24															133.6
DIVE		0.81															17.1
ENVR																	39.1
CREW										15.68	0						68.3
RANGE																	609.7
GOTH								0									330.6
TECH		1.53															139.4
GEN																	
SHIP																	61.1
AIR																	25.9
SPACE																	3.5
GRD																	0.0
MISS																	84.2
TORP																	0.4
MINE																	1.0
GUN																	16.9
WSOTH																	
CSISUB																	3.1
CSIAIR																	17.8
CSISURF																	24.9
CSIMUL																	43.4
SPEC																	11.8
SENS																	54.5
NAV																	7.7
C4I																	89.0
BMD																	40.0
DOTH																	97.6
STRAT																	0.0
TRNG		0.16						0							0.88		55.7
LOG		26.14		4.3													30.4
FAC		30.04															30.4
DIVE																	4.8
ENVR																	1.7
CREW																	1.7
RANGE			34.32				211.84										325.9
GOTH								0									893.9
TECH		1.61															16.1
Total	335.6	363.1	34.3	722.9	239.2	104.8	211.8	0.0	0.0	55.0	0.0	52.2	0.0	0.0	38.7	37.0	
Pct. excess	33.7	26.8	34.0	16.7	20.0	16.9	20.1	0.0	0.0	9.8	0.0	1.6	0.0	0.0	19.3	0.0	

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				CINCLANTFLT				NSEACEN	
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huenem	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Norfolk	NorDet	AFWTF	Maypt	S Diego	Pearl H
	MISSION STATEMENT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	Includes full-spectrum life cycle responsibility.	1	0	0	0	1	0	0	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0
2	Includes total systems responsibility.	1	1	1	0	1	0	1	0	0	0	0	0	0	1	1	1	0	1	1	1	1	0	0
3	Includes sub-system/component responsibility.	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	1	0	0
4	Includes systems integration responsibility.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5	Includes component integration responsibility.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
6	Includes research.	1	0	0	0	1	1	0	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0
7	Includes development.	1	0	0	0	1	1	0	1	1	0	0	1	1	1	1	1	0	0	0	1	0	0	0
8	Includes test and evaluation	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0
9	Includes procurement/acquisition.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Includes in-service engineering.	1	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1
11	Includes support to direct formal training of naval forces.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
12	A naval surface warfare activity.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
13	A naval air warfare activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	A naval undersea warfare activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0
15	A naval command, control, and ocean surveillance activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	A naval research laboratory activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Includes joint/lead service assignments..	0	1	1	0	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
	TECHNICAL FUNCTIONS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18	Include a minimum of 100 in-house technical WYs in PLATFORMS.	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0
19	Include a minimum of 100 in-house technical WYs in WEAPONS SYSTEMS.	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0	0
20	Include a minimum of 100 in-house technical WYs in COMBAT SYSTEM INTEGRATION	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
21	Include a minimum of 100 in-house technical WYs in SPECIAL OPERATIONS SUPPORT.	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Include a minimum of 100 in-house technical WYs in SENSORS & SURVEILLANCE SYST	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
23	Inlcude a minimum of 100 in-house technical WYs in NAVIGATION.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Include a minimum of 100 in-house technical WYs in C3I.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Inlcude a minimum of 100 in-house technical WYs in DEFENSE SYSTEMS.	0	1	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
26	Include a minimum of 100 in-house technical WYs in STRATEGIC PROGRAMS.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Include a minimum of 100 in-house technical WYs in GENERAL MISSION SUPPORT.	0	1	0	0	1	1	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	1	0
28	Include a minimum of 100 in-house technical WYs in GENERIC TECHNOLOGY BASE.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Inlcude a minimum of 100 in-house technical WYs in BASIC RESEARCH (RDT&E).	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Include a minimum of 100 in-house technical WYs in TECHNICAL BASE (RDT&E).	0	1	0	0	1	1	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0
31	Include a minimum of 100 in-house technical WYs in DEVELOPMENT & DEVELOPMEN	0	1	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
32	Include a minimum of 100 in-house technical WYs in ACQUISITION.	0	1	1	0	1	1	1	1	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0
33	Include a minimum of 100 in-house technical WYs in LIFETIME SUPPORT.	0	1	1	0	1	1	1	0	0	1	0	1	0	0	1	1	1	1	1	0	1	1	0
34	Include a minimum of 100 in-house technical WYs in TRAINING/SIMULATION.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	PLATFORMS share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0
36	WEAPONS SYSTEMS share of DON in-house technical WYs is => 5%.	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0
37	COMBAT SYSTEMS INTEGRATION share of DON in-house technical WYs is => 5% .	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
38	SPECIAL OPERATIONS SUPPORT share of DON in-house technical WYs is => 5%.	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	SENSORS & SURVEILLANCE SYSTEMS share of DON in-house technical WYs is => 5%.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
40	NAVIGATION share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	C3I share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	DEFENSE SYSTEMS share of DON in-house technical WYs is => 5%.	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	STRATEGIC PROGRAMS share of DON in-house technical WYs is => 5%.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	GENERAL MISSION SUPPORT share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	GENERAL TECHNOLOGY BASE share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	BASIC RESEARCH (RDT&E) share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	TECHNICAL BASE (RDT&E) share of DON in-house technical WYs is => 5 %.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
48	DEVELOPMENT & DEVELOPMENT SUPPORT (RDT&E) share of DON in-house technic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	ACQUISITION share of DON in-house technical WYs is => 5%.	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
50	LIFETIME SUPPORT share of DON in-house technical WYs is => 5%.	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				CINCLANTFLT				NSEACEN	
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huenem	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Norfolk	NorDet	AFWTF	Maypt	S Diego	Pearl H
51	TRAINING/SIMULATION share of DON in-house technical WYs is => 5%.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	Technical functions are performed for aircraft.	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0
53	Technical functions are performed for submarines.	0	1	1	1	0	0	0	1	1	1	1	1	0	0	1	1	1	1	1	0	1	0	0
54	Technical functions are performed for surface ships.	0	1	1	0	1	1	1	1	1	1	0	1	0	0	0	0	0	1	1	0	1	0	0
55	Technical functions are performed for command, control and ocean surveillance.	0	1	0	0	1	0	1	0	0	0	0	1	0	0	1	1	1	1	1	0	0	0	0
	FACILITIES [illegible]	0.000	9.010	8.006	1.477	7.635	7.955	12.025	4.259	3.210	2.927	5.079	7.413	0.357	0.146	3.747	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
56	Facility is a host activity.	0	1	1	0	1	1	0	1	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0
57	80% to 89% of administrative & laboratory space is ADEQUATE.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0
58	90% to 100% of administrative & laboratory space is ADEQUATE.	0	1	1	0	1	1	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0
59	3% to 5% of administrative & laboratory space is INADEQUATE.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
60	Less than 3% of administrative & laboratory space is INADEQUATE.	0	1	1	0	1	1	1	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0
61	No funds are required to correct inadequacies.	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
62	Funds are required to correct inadequacies, but less then $500,000.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
63	Funds are required to correct inadequacies, totalling between $500,000 and $5,000,000.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	Less than 5% of utilized floor space is leased.	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1
65	Less than 25% of plant account space is assigned to tenants.	0	0	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0
66	10,000 to 49,999 sqft of existing Government owned space is available for expansion.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
67	50,000 to 100,000 sqft of existing Government owned space is available for expansion.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	More than 100,000 sqft of existing Government owned space is available for expansion.	0	1	1	0	1	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0
69	10,000 to 49,999 sqft of Government owned space can be constructed for expansion.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0
70	50,000 to 100,000 sqft of Government owned space can be constructed for expansion.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	More than 100,000 sqft of Government owned space can be constructed for expansion.	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	Expansion opportunities can support 50 to 99 additional persons.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	Expansion opportunities can support 100 to 499 additional persons.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
74	Expansion opportunities can support more than 500 additional persons.	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	250 to 499 unimproved & unencumbered acres available for expansion.	0	0	0	1.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	500 to 1000 unimproved & unencumbered acres available for expansion.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
77	More than 1,000 unimproved & unencumbered acres available for expansion.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
78	Expansion is not constrained by parking limitations.	0	1	1	1	1	0	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	0	0
79	Expansion is not constrained by radio frequency limitations.	0	0	0	1	0	0	1	1	1	0	1	1	0	0	1	1	1	0	0	1	0	0	0
80	10 to 49 acres with roads and utilities available for expansion.	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
81	50 to 499 acres with roads and utilities available for expansion.	0	0	1	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
82	More than 500 acres with roads and utilities available for expansion.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
83	Site utilizes less than 70% of its utility capacity.	0	1	1	1	1	1	0	1	1	0	1	1	0	0	1	1	1	0	0	0	0	0	0
84	Less than 20% of replacement value of the Site's SF&E is PORTABLE.	0	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0
85	Replacement value of FIXED SF&E is between $25,000,000 and $100,000,000.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
86	Replacement value of FIXED SF&E exceeds $100,000,000.	0	1	1	0	1	1	1	1	1	0	1	1	0	0	1	1	1	0	0	1	0	0	0
87	Site has revenue producing resources.	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0
	RANGES, FEATURES AND OTHER CAPABILITIES	0.000	9.234	4.654	0.000	4.382	8.001	[illegible]	2.440	1.575	2.951	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
88	Site operates piers that can support naval combatants.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0
89	Site operates an operational air field that supports high performance aircraft.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	Site has ordnance storage capacity between 500,000 and 999,999 net explosive wieght.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	Site has ordnance storage capacity between 1,000,000 and 9,999,999 net explosive weig	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	Site has ordnance storage capacity is at least 10,000,000 net explosive weight.	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
93	Facility has a super computer or parallel computer on site.	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
94	Data transfer across the site is supported by a high speed network.	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0
95	Real time data interconnectivity is achieved with other sites.	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0
96	Production is accomplished at this site.	0	1	1	0	1	1	1	0	0	0	1	1	1	0	1	1	1	0	0	0	0	0	0
97	Site has a real time Video Teleconferencing Center.	0	1	1	0	0	1	1	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0
98	Officially assigned mobilization responsibility.	0	1	1	0	1	1	1	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0
99	Adequate facilities available to support mobilization responsibilities.	0	1	1	0	1	1	1	0	0	1	0	1	1	0	1	1	1	1	1	0	1	0	0
100	Site maintains production facilities to be activated for contingencies.	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0

Military Value Matrix

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				CINCLANTFLT				NSEACEN	
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huenem	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Norfolk	NorDet	AFWTF	Maypt	S Diego	Pearl H
101	Site supports Reserve Unit mobilization responsibilities.	0	1	1	0	1	1	1	0	0	1	0	1	0	0	1	1	1	1	1	0	1	0	0
102	Site controls range airspace of greater than 5,000 sq mi..	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
103	Airspace range(s) has no limiting (current or future) encroachment or environmental con	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	Site controls range sea/undersea space of greater than 100 sq mi.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0
105	Seaspace/undersea range(s) has no limiting (current or future) encroachment or environ	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0
106	Site controls range landspace of greater than 100 sq mi.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
107	Landspace range(s) has no limiting (future or current) encroachment or environmental co	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Site has range facilities that are used for fleet tactical training.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0
109	Facility is part of the DoD Major Range and Test Facility Base.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0
110	At least 100,000 man hours of depot/industrial maintenance performed in FY 1993.	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
	MANPOWER	0.000	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
111	Total civilians on board is between 1000 and 1999.	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
112	Total civilians on board is between 2000 and 3,999.	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0
113	Total civilians on board is greater than 4000.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	Average civilian technical staff years of experience is less than 7.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	Average civilian technical staff years of experience is greater than 7 and less than 9.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	Average civilian technical staff years of experience is greater than 9 and less than 11.	0	1	0	0	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
117	Average civilian technical staff years of experience is greater than 11 and less than 13.	0	0	1	0	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0
118	Average civilian technical staff years of experience is greater than 13 and less than 15.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0
119	Average civilian technical staff years of experience is greater than 15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
120	Average civilian technical staff education level is less than 13.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
121	Average civilian technical staff education level is greater than 13 and less than 14.	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0
122	Average civilian technical staff education level is greater than 14 and less than 15.	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0
123	Average civilian technical staff education level is greater than 15 and less than 16.	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
124	Average civilian technical staff education level is greater than 16.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0
125	Average # of articles published over last 4 years per 100 technical staff is in the top 25%.	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	Average # of articles published over last 4 years per 100 technical staff is in the next 25%	0	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	0	1
127	Books/chapters written over last 4 years per 100 technical staff is in the top 25%.	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0
128	Books/chapters written over last 4 years per 100 technical staff is in the next 25%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	Activity has Nobel laureate(s) employed.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	Average # of awards over last 4 years per 100 technical staff is in the top 25%.	0	0	0	0	0	1	0	1	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0
131	Average # of awards over the last 4 years per 100 technical staff is in the next 25%.	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	1	1	0	0	1	0	0
132	Patents granted over last 4 years per 100 technical staff is in the top 25%.	0	0	0	0	0	1	0	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0
133	Patents granted over last 4 years per 100 technical staff is in the next 25%.	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
134	Patents applied for over last 4 years per 100 technical staff is in the top 25%.	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0
135	Patents applied for over last 4 years per 100 technical staff is in the next 25%.	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
136	National Academy of Engineering/Science members.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	# of CRDAs signed by the Activity is over 10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
138	Annual royalty income per 100 technical staff is in the top 25%.	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
139	Annual royalty income per 100 technical staff is in the next 25%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	Number of major end item prototypes currently in use is in the top 25%.	0	0	0	0	0	1	0	1	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0
141	Number of major end item prototypes currently in use is in the next 25%.	0	1	1	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
	LOCATION/ENVIRONMENT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
142	Location is necessary to perform assigned technical functions.	0	0	0	0	1	1	1	0	0	0	1	0	0	0	1	1	1	0	0	1	0	0	0
143	Location has natural features that are essential to the mission of the facility.	0	0	0	0	1	1	1	0	1	0	1	0	0	0	1	1	1	0	0	1	0	0	0
144	Location enhances synergy with other activities and bases.	1	0	0	0	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0	1	0	0
145	Location enhances joint use capability.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	Location provides favorable weather conditions.	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
147	Location is important to customers.	1	1	1	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1
148	Site has no endangered/threatened species and biological habitats that restrict current o	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
149	Site has no jurisdictional wetlands that currently restrict base operations or development	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
150	Site has no National Register cultural resources that constrain base ops or devlopment pl	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0

[illegible] CENTERS Military Value Matrix

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				CINCLANTFLT				NSEACEN	
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huenem	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Norfolk	NorDet	AFWTF	Maypt	S Diego	Pearl H
151	Base ops or development plans are not constrained by laws applying to environmental fac	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
152	Site is in an "attainment" or "maintenance" air quality control area for CO, Ozone, PM-1	0	1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1
153	Site operations or development plans have not been restricted due to air quality consider	1	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1
154	Site has no Installation Restoration issues that restrict operations or development plans.	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
155	Site has no significant maintenance dredging restrictions.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	QUALITY OF LIFE	4.407	2.637	4.314	0.222	[illegible]	[illegible]	[illegible]	2.593	4.012	2.074	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
156	Is there sufficient off base housing?	0	1	1	0	0	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	1	0
157	Do 90% or more of the housing units have all the required amenities?	0	0	1	0	0	1	0	0	1	[illegible]	1	1	1	0	0	0	1	0	0	1	1	0	1
160	Is the average wait for housing three months or less?	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0
163	Are 90% of BEQ rooms adequate?	0	1	0	0	1	1	0	0	0	[illegible]	0	1	0	0	0	0	1	0	0	0	0	0	0
165	Are 90% of BOQ rooms adequate?	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
166	Does the site have >90% of the listed MWR facilities?	0	0	0	0	0	0	0	0	0	[illegible]	0	1	0	1	1	1	0	0	0	0	1	0	1
169	Are >90% of the child care facilities adequate?	0	0	0	0	1	0	1	0	0	[illegible]	0	1	1	1	1	0	1	1	1	0	1	0	1
172	Is the average wait for 0-12 month child care <180 days?	0	0	0	0	0	0	1	0	0	[illegible]	0	0	0	1	1	0	0	0	0	0	1	0	0
177	Do >50% of site military and civilian personnel live within a 30 minute commute?	0	0	1	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1
178	Are local area educational institution programs adequate for military family members?	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179	Are there educational opportunities at all college levels within a 30-mile radius?	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
180	Are college education courses available on the base?	0	1	0	0	1	1	1	1	1	[illegible]	1	1	0	1	1	1	1	1	1	1	1	1	1
184	Do military family members have reasonable access to medical/dental facilities?	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
185	Is the violent crime rate <758/100,000?	0	1	1	1	1	0	1	0	0	1	1	0	1	0	0	1	1	1	1	0	0	0	1
186	Is the property crime rate <4902/100,00?	1	1	1	1	1	0	1	1	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0
187	Is the drug crime rate <402/100,000?	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
	COST	[illegible]	[illegible]	[illegible]	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
188	Percent of all employees employed in technical operations is more than 90.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
189	Percent of all employees employed in technical opertions is between 70 and 90.	0	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	1	1	0
190	Percent of all employees employed in technical opertions is between 50 and 70.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
191	Percent of all employees employed in technical opertions is between 30 and 50.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
192	Percent of all employees employed in technical opertions is less than 30.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
193	Percent of overhead performed by government civilians is greater than 90.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194	Percent of overhead performed by government civilians is between 70 and 90.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
195	Percent of overhead performed by government civilians is between 50 and 70.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
196	Percent of overhead performed by government civilians is between 30 and 50.	0	1	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
197	Percent of overhead performed by government civilians is less than 30.	0	0	1	0	0	0	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1
198	Percent of technical operations performed by government civilians is greater than 90.	0	0	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	0	1	0	1	1
199	Percent of tech. operations performed by government civilians is between 70 and 90.	0	1	0	0	0	0	0	0	0	1	·0	1	0	0	0	0	1	0	1	0	1	0	0
200	Percent of tech. operations performed by government civilians is between 50 and 70.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
201	Percent of tech. operations performed by government civilians is between 30 and 50.	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
202	Percent of tech. operations performed by government civilians is less than 30.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LOSS IMPACT	0.000	[illegible]	0.942	0.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
203	Directly impact naval force training. (20 TO 39 WYs in Training/Simulation)	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
204	Directly impact naval force training. (40 or higher WYs in Training/Simulation)	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
205	Directly impact existing naval force readiness. (100 to 499 WYs in Lifetime Support)	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0
206	Directly impact existing naval force readiness. (500 or higher WYs in Lifetime Support)	0	1	1	0	0	0	1	0	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0
207	Directly impact future naval force development. (100 to 499 WYs in RDT&E)	0	1	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
208	Directly impact future naval force development (500 or higher WYs in RDT&E.)	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
209	Loss of activity adversely affects top 25% of technical mission areas.	0	1	1	0	1	0	1	1	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0
210	Loss of activity adversely affects 2nd 25% of technical mission areas.	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0
211	Loss of activity adversely affects 3rd 25% of technical mission areas.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
		13.30	42.83	32.79	5.02	47.47	37.17	33.53	31.33	[illegible]	[illegible]	19.45	40.41	16.56	21.89	51.01	39.94	34.03	19.83	16.24	23.63	19.00	8.86	10.03

	27 sep	3 Oct	change	mission	location	qual of life
NAWC HQ	17.54	9.48	-8.06	minus		plus
NAWC CHINA LAKE	58.29	60.91	2.62			plus/cor
NAWC POINT MUGU	55.17	55.17	0			
NAWC INDIANAPOLIS	36.76	36.76	0			
NAWC PAX RIVER	51.95	52.06	0.11		minus	plus
NAWC DET WARMINSTER	22.55	19.97	-2.58	minus	minus	plus/cor
NAWC DWTF ORELAND	7.54	7.54	0			
NAWC LAKEHURST	37.5	38.07	0.57	plus/cor		
NAWC TSC ORLANDO	27.92	31.67	3.75	plus/cor		
NATSF PHILADELPHIA	9.77	11.38	1.61	plus/cor		plus
NAESU LAKEHURST	7.93	7.93	0			
NSWC HQ	13.3	8.3	-5	minus		plus
NSWC CRANE	42.83	41.94	-0.89		minus	
NSWC DET LOUISVILLE	32.79	31.16	-1.63		minus	minus/cor
NSWC HTA SULLIVAN	5.02	5.77	0.75		plus	
NSWC DAHLGREN	47.47	46.58	-0.89		minus	
NSWC PANAMA CITY	37.17	37.03	-0.14		minus	
NSWC PORT HUENEME	33.53	33.39	-0.14		minus	
NSWC CARDEROCK	31.4	36.72	5.32	cor	plus	plus
NSWC DET PHILADELPHIA	21.74	26.94	5.2			plus
NSWC DET ANNAPOLIS	28.64	29.04	0.4	minus	minus	plus
NSWC ARD BAYVIEW	19.45	20.2	0.75			plus
NSWC INDIAN HEAD	40.41	40.41	0		minus	
NSWC DET YORKTOWN	16.56	15.45	-1.11	minus		
NAVSEALOGCEN MECHANICSBURG	15.14	15.14	0			
NAVSEASUPCEN SAN DIEGO	8.86	11.02	2.16	plus/cor		plus
NAVSEASUPCEN PEARL HARBOR	10.03	11.08	1.05	plus/cor		
NUWC HQ	21.89	15.35	-6.54	minus		plus
NUWC NEWPORT	51.01	50.87	-0.14		minus	
NUWC DET NEW LONDON	39.94	40.79	0.85		minus	plus
NUWC KEYPORT	34.03	34.76	0.73		minus	
SEASPARROW PSO	9.65	12.23	2.58			plus
NAVWARASSESDIV CORONA	26.52	28.42	1.9	cor		
NAVEODTECHDIV INDIAN HEAD	18.86	18.86	0			
NOC INDIAN HEAD	12.84	12.84	0			
AEGIS COMBAT CENTER WALLOPS I	26.02	25.29	-0.73		minus/plus	
AEGIS TECH REP MOORESTOWN	24.34	24.34	0			
NCCOSC HQ	19.19	13.34	-5.85	minus		plus
NCCOSC RDT&E SAN DIEGO	46.56	47.56	1			plus
NCCOSC RDT&E DET WARMINSTER	24.72	27.51	2.79			plus
NCCOSC ISE EAST CHARLESTON	20.27	22.01	1.74			plus
NCCOSC ISE EAST DET NORFOLK	20.33	20.33	0			
NCCOSC ISE WEST SAN DIEGO	19.38	21.12	1.74			plus
NCCOSC ISE WEST PEARL HARBOR	18.77	19.52	0.75			plus
NAVMASO CHESAPEAKE	13.46	15.72	2.26	cor		plus
NAVTECHREPO LAUREL	8.02	8.46	0.44	cor	plus	
NRL	33.77	37.66	3.89	plus/cor		plus
NRL DET UNDERWATER SOUND REF	17.72	16.83	-0.89		minus	
ONR	16.74	18.58	1.84			plus
NAVFACENGSERCEN PT HUENEME	26.32	26.67	0.35		minus	plus
AFWTF	23.63	24.38	0.75			plus
FTSC ATLANTIC	19.83	20.11	0.28			plus
FTSC ATLANTIC NORFOLK	16.24	16.99	0.75			plus
FTSC ATLANTIC MAYPORT	19	21.49	2.49			plus
PMRF BARKING SANDS	28.79	28.79	0			
NPRDC SAN DIEGO	19.46	20.46	1			plus
COMOPTEVFOR NORFOLK	15.1	15.84	0.74			plus
NCTRF NATICK	18.43	19.43	1		minus	plus
NAVMEDRESINST BETHESDA	14.02	14.77	0.75			plus
NAVHTHRESCEN SAN DIEGO	15.47	15.58	0.11		minus	plus
NAVAERMEDRESLAB PENSACOLA	15.87	18.06	2.19		minus/plus	plus
NAVBIOLAB NEW ORLEANS	14.25	14.25	0			
NAVSUBMEDRESLAB GROTON	13.92	14.91	0.99			plus
NAVDENRESINST GREAT LAKES	17.89	18.88	0.99			plus

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				LOGCEN	EOD
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huen	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Nowpt	N Lond	Keyport	Mechan	Tech Ct
	MISSION STATEMENT	0.593	2.136	4.629	1.111	9.047	5.435	4.649	8.677	6.184	2.654	1.407	6.184	2.675	0.519	10.292	3.119	4.575	0.749	2.062
1	Includes full-spectrum life cycle responsibility.	0	0	0	0	1	0	0	1	1	0	0	1	0	0	1	0	0	0	0
2	Includes total systems responsibility.	0	0	1	0	1	1	1	1	0	0	0	0	0	0	1	0	1	0	0
3	Includes sub-system/component responsibility.	0	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1
4	Includes systems integration responsibility.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5	Includes component integration responsibility.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
6	Includes research.	0	0	0	0	1	1	0	1	1	0	0	1	0	0	1	1	0	0	0
7	Includes development.	0	0	0	0	1	1	0	1	1	0	0	1	1	0	1	1	0	0	1
8	Includes test and evaluation.	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0
9	Includes procurement/acquisition.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Includes in-service engineering.	0	1	1	0	1	0	1	1	1	1	0	1	1	0	1	1	1	1	1
11	Includes support to direct formal training of naval forces.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	A naval surface warfare activity.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
13	A naval air warfare activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	A naval undersea warfare activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
15	A naval command, control, and ocean surveillance activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	A naval research laboratory activity.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Includes joint/lead service assignments.	0	1	1	0	1	1	0	1	1	1	0	1	0	0	0	0	0	0	1
	TECHNICAL FUNCTIONS	0.000	7.864	3.568	0.296	7.813	2.846	6.086	2.815	1.666	3.198	0.296	3.736	0.000	0.000	6.661	3.735	3.864	1.809	0.667
18	Include a minimum of 100 in-house technical WYs in PLATFORMS.	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
19	Include a minimum of 100 in-house technical WYs in WEAPONS SYSTEMS	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	1
20	Include a minimum of 100 in-house technical WYs in COMBAT SYSTEM IN	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0
21	Include a minimum of 100 in-house technical WYs in SPECIAL OPERATIO	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Include a minimum of 100 in-house technical WYs in SENSORS & SURVEIL	0	1	0	0	1	0	1	0	0	0	0	0	0	0	1	1	1	0	0
23	Inlcude a minimum of 100 in-house technical WYs in NAVIGATION.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Include a minimum of 100 in-house technical WYs in C3I.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Inlcude a minimum of 100 in-house technical WYs in DEFENSE SYSTEMS.	0	1	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0
26	Include a minimum of 100 in-house technical WYs in STRATEGIC PROGR	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Include a minimum of 100 in-house technical WYs in GENERAL MISSION	0	1	0	0	1	1	0	0	0	0	0	1	0	0	1	0	1	1	0
28	Include a minimum of 100 in-house technical WYs in GENERIC TECHNOL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Inlcude a minimum of 100 in-house technical WYs in BASIC RESEARCH (	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Include a minimum of 100 in-house technical WYs in TECHNICAL BASE (I	0	1	0	0	1	1	0	1	1	0	0	0	0	0	1	1	0	0	0
31	Include a minimum of 100 in-house technical WYs in DEVELOPMENT & D	0	1	0	0	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0
32	Include a minimum of 100 in-house technical WYs in ACQUISITION.	0	1	1	0	1	1	1	1	0	1	0	1	0	0	1	1	1	1	0
33	Include a minimum of 100 in-house technical WYs in LIFETIME SUPPORT.	0	1	1	0	1	1	1	0	0	1	0	1	0	0	1	1	1	1	0
34	Include a minimum of 100 in-house technical WYs in TRAINING/SIMULATI	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	PLATFORMS share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
36	WEAPONS SYSTEMS share of DON in-house technical WYs is => 5%.	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	0
37	COMBAT SYSTEMS INTEGRATION share of DON in-house technical WYs is	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0
38	SPECIAL OPERATIONS SUPPORT share of DON in-house technical WYs is	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
39	SENSORS & SURVEILLANCE SYSTEMS share of DON in-house technical W	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
40	NAVIGATION share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	C3I share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	DEFENSE SYSTEMS share of DON in-house technical WYs is => 5%.	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
43	STRATEGIC PROGRAMS share of DON in-house technical WYs is => 5%.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	GENERAL MISSION SUPPORT share of DON in-house technical WYs is => 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	GENERAL TECHNOLOGY BASE share of DON in-house technical WYs is =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	BASIC RESEARCH (RDT&E) share of DON in-house technical WYs is => 5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
47	TECHNICAL BASE (RDT&E) share of DON in-house technical WYs is => 5%	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0
48	DEVELOPMENT & DEVELOPMENT SUPPORT (RDT&E) share of DON in-hous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	ACQUISITION share of DON in-house technical WYs is => 5%.	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0
50	LIFETIME SUPPORT share of DON in-house technical WYs is => 5%.	0	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				LOGCEN	EOD
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huene	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Mechan	Tech Ct
51	TRAINING/SIMULATION share of DON in-house technical WYs is => 5%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	Technical functions are performed for aircraft.	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
53	Technical functions are performed for submarines.	0	1	1	1	0	0	0	1	1	1	1	1	0	0	1	1	1	0	0
54	Technical functions are performed for surface ships.	0	1	1	0	1	1	1	1	1	1	0	1	0	0	0	0	0	1	0
55	Technical functions are performed for command, control and ocean s	0	1	0	0	1	0	1	0	0	0	0	1	0	0	1	1	1	0	0
	FACILITIES	0.000	9.010	8.006	1.477	7.655	7.955	2.825	6.259	3.315	2.927	3.876	6.801	0.397	0.148	5.495	5.943	5.201	0.148	0.397
56	Facility is a host activity.	0	1	1	0	1	1	0	1	1	0	0	1	0	0	1	1	1	0	0
57	80% to 89% of administrative & laboratory space is ADEQUATE.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0
58	90% to 100% of administrative & laboratory space is ADEQUATE.	0	1	1	0	1	1	0	1	0	1	0	0	0	0	1	1	0	0	0
59	3% to 5% of administrative & laboratory space is INADEQUATE.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
60	Less than 3% of administrative & laboratory space is INADEQUATE.	0	1	1	0	1	1	1	0	0	1	1	1	0	0	0	1	1	0	0
61	No funds are required to correct inadequacies.	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0
62	Funds are required to correct inadequacies, but less then $500,000.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	Funds are required to correct inadequacies, totaling between $500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	Less than 5% of utilized floor space is leased.	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1
65	Less than 25% of plant account space is assigned to tenants.	0	0	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0
66	10,000 to 49,999 sqft of existing Government owned space is available f	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
67	50,000 to 100,000 sqft of existing Government owned space is available	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
68	More than 100,000 sqft of existing Government owned space is availabl	0	1	1	0	1	1	0	1	0	1	0	1	0	0	1	1	0	0	0
69	10,000 to 49,999 sqft of Government owned space can be constructed	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
70	50,000 to 100,000 sqft of Government owned space can be constructe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	More than 100,000 sqft of Government owned space can be construct	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0
72	Expansion opportunities can support 50 to 99 additional persons.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	Expansion opportunities can support 100 to 499 additional persons.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
74	Expansion opportunities can support more than 500 additional persons.	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
75	250 to 499 unimproved & unencumbered acres available for expansion	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
76	500 to 1000 unimproved & unencumbered acres available for expansio	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	More than 1,000 unimproved & unencumbered acres available for exp	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	Expansion is not constrained by parking limitations.	0	1	1	1	1	0	1	1	1	0	0	0	0	0	1	1	1	0	0
79	Expansion is not constrained by radio frequency limitations.	0	0	0	1	0	0	1	1	1	0	1	1	0	0	1	1	1	0	0
80	10 to 49 acres with roads and utilities available for expansion.	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0
81	50 to 499 acres with roads and utilities available for expansion.	0	0	1	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0
82	More than 500 acres with roads and utilities available for expansion.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83	Site utilizes less than 70% of its utility capacity.	0	1	1	1	1	1	0	1	1	0	1	1	0	0	1	1	1	0	0
84	Less than 20% of replacement value of the Site's SF&E is PORTABLE.	0	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1
85	Replacement value of FIXED SF&E is between $25,000,000 and $100,000,	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86	Replacement value of FIXED SF&E exceeds $100,000,000.	0	1	1	0	1	1	1	1	1	0	1	1	0	0	1	1	1	0	0
87	Site has revenue producing resources.	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
	RANGES, FEATURES AND OTHER CAPABILITIES	0.000	6.365	4.654	0.000	4.387	4.005	3.203	2.448	1.577	2.954	1.879	5.261	2.305	1.677	8.559	3.406	7.603	0.000	2.083
88	Site operates piers that can support naval combatants.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1	1	0	0
89	Site operates an operational air field that supports high performance ai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	Site has ordnance storage capacity between 500,000 and 999,999 net e	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	Site has ordnance storage capacity between 1,000,000 and 9,999,999 n	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
92	Site has ordnance storage capacity is at least 10,000,000 net explosive v	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0
93	Facility has a super computer or parallel computer on site.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	Data transfer across the site is supported by a high speed network.	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1
95	Real time data interconnectivity is achieved with other sites.	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1
96	Production is accomplished at this site.	0	1	1	0	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0
97	Site has a real time Video Teleconferencing Center.	0	1	1	0	0	1	1	0	0	0	0	1	0	0	1	1	1	0	0
98	Officially assigned mobilization responsibility.	0	1	1	0	1	1	1	0	0	1	0	1	1	0	1	1	1	0	1
99	Adequate facilities available to support mobilization responsibilities.	0	1	1	0	1	1	1	0	0	1	0	1	1	0	1	1	1	0	1
100	Site maintains production facilities to be activated for contingencies.	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				LOGCEN	EOD
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huene	Cardrck	Annap	Phily	Baylew	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Mechan	Tech Ct
101	Site supports Reserve Unit mobilization responsibilities.	0	1	1	0	1	1	1	0	0	1	0	1	0	0	1	1	1	0	1
102	Site controls range airspace of greater than 5,000 sq mi..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	Airspace range(s) has no limiting (current or future) encroachment or e	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	Site controls range sea/undersea space of greater than 100 sq mi.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0
105	Seaspace/undersea range(s) has no limiting (current or future) encroac	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	0
106	Site controls range landspace of greater than 100 sq mi.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	Landspace range(s) has no limiting (future or current) encroachment o	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	Site has range facilities that are used for fleet tactical training.	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0
109	Facility is part of the DoD Major Range and Test Facility Base.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
110	At least 100,000 man hours of depot/industrial maintenance performed	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
	MANPOWER	0.000	3.694	3.694	0.000	6.038	5.250	3.890	6.806	5.760	4.139	2.693	4.930	3.239	2.370	6.856	7.694	3.520	1.926	3.313
111	Total civilians on board is between 1000 and 1999.	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0
112	Total civilians on board is between 2000 and 3,999.	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	0
113	Total civilians on board is greater than 4000.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	Average civilian technical staff years of experience is less than 7.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	Average civilian technical staff years of experience is greater than 7 ar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	Average civilian technical staff years of experience is greater than 9 ar	0	1	0	0	0	1	1	1	0	1	1	1	1	0	0	0	0	1	0
117	Average civilian technical staff years of experience is greater than 11 a	0	0	1	0	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0
118	Average civilian technical staff years of experience is greater than 13 a	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1
119	Average civilian technical staff years of experience is greater than 15.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	Average civilian technical staff education level is less than 13.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	Average civilian technical staff education level is greater than 13 and l	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
122	Average civilian technical staff education level is greater than 14 and l	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	0	1	0
123	Average civilian technical staff education level is greater than 15 and l	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0
124	Average civilian technical staff education level is greater than 16.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
125	Average # of articles published over last 4 years per 100 technical staff I	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
126	Average # of articles published over last 4 years per 100 technical staff I	0	1	1	0	1	1	1	0	0	1	1	1	1	0	1	1	1	0	0
127	Books/chapters written over last 4 years per 100 technical staff is in the t	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0
128	Books/chapters written over last 4 years per 100 technical staff is in the r	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	Activity has Nobel laureate(s) employed.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	Average # of awards over last 4 years per 100 technical staff is in the to	0	0	0	0	0	1	0	1	1	0	1	0	1	0	0	0	0	0	0
131	Average # of awards over the last 4 years per 100 technical staff is in th	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	1	0	0
132	Patents granted over last 4 years per 100 technical staff is in the top 25%	0	0	0	0	0	1	0	1	1	0	1	1	0	0	1	1	0	0	0
133	Patents granted over last 4 years per 100 technical staff is in the next 25	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
134	Patents applied for over last 4 years per 100 technical staff is in the top 2	0	0	0	0	1	0	0	1	1	0	0	1	0	0	1	1	0	0	0
135	Patents applied for over last 4 years per 100 technical staff is in the next	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1
136	National Academy of Engineering/Science members.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
137	# of CRDAs signed by the Activity is over 10.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
138	Annual royalty income per 100 technical staff is in the top 25%.	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	0	1
139	Annual royalty income per 100 technical staff is in the next 25%.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	Number of major end item prototypes currently in use is in the top 25%.	0	0	0	0	0	1	0	1	1	1	0	1	0	0	1	1	0	0	0
141	Number of major end item prototypes currently in use is in the next 25%	0	1	1	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	1
	LOCATION/ENVIRONMENT	3.194	2.137	1.310	2.661	2.951	3.455	3.052	2.602	2.460	1.713	3.751	2.104	1.209	3.194	3.941	3.941	4.143	1.713	2.104
142	Location is necessary to perform assigned technical functions.	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
143	Location has natural features that are essential to the mission of the fac	0	0	0	1	1	1	1	0	1	0	1	0	0	0	1	1	1	0	0
144	Location enhances synergy with other activities and bases.	1	0	0	0	1	1	1	0	0	0	0	1	0	1	1	1	1	0	1
145	Location enhances joint use capability.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	Location provides favorable weather conditions.	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
147	Location is important to customers.	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
148	Site has no endangered/threatened species and biological habitats tha	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
149	Site has no jurisdictional wetlands that currently restrict base operations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	Site has no National Register cultural resources that constrain base ops	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1

[illegible]AL CENTERS Military Value Matrix

Que Seq	QUESTIONS	NAVAL SURFACE WARFARE CENTERS													NUWC				LOGCEN	EOD
		HQ	Crane	Lville	Sullivan	Dahlgrn	Pan City	Pt Huene	Cardrck	Annap	Phily	Bayview	Indn Hd	Yorktwn	HQ	Newpt	N Lond	Keyport	Mechan	Tech Ct
151	Base ops or development plans are not constrained by laws applying to	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
152	Site is in an "attainment" or "maintenance" air quality control area for C	0	1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0
153	Site operations or development plans have not been restricted due to	1	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0
154	Site has no Installation Restoration issues that restrict operations or devel	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
155	Site has no significant maintenance dredging restrictions.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	QUALITY OF LIFE	3.991	4.637	3.567	0.222	4.388	5.754	4.658	4.086	5.008	6.525	3.667	6.605	4.293	6.874	6.874	4.234	6.599	4.732	6.605
156	Is there sufficient off base housing?	0	1	1	0	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1
157	Do 90% or more of the housing units have all the required amenities?	1	0	1	0	0	1	0	1	[illegible]	[illegible]	1	1	1	0	0	0	1	0	1
160	Is the average wait for housing three months or less?	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1
163	Are 90% of BEQ rooms adequate?	0	1	0	0	1	1	0	0	[illegible]	[illegible]	0	1	0	0	0	0	1	0	1
165	Are 90% of BOQ rooms adequate?	1	1	0	0	1	1	0	1	0	0	0	0	1	1	1	1	0	0	0
166	Does the site have >90% of the listed MWR facilities?	0	0	0	0	0	0	0	0	0	[illegible]	0	1	0	1	1	0	1	0	1
169	Are >90% of the child care facilities adequate?	1	0	0	0	1	0	1	0	0	[illegible]	0	1	1	1	1	0	1	1	1
172	Is the average wait for 0-12 month child care < 180 days?	0	0	0	0	0	0	1	0	0	[illegible]	0	0	0	1	1	0	0	1	0
177	Do >50% of site military and civilian personnel live within a 30 minute co	0	0	1	0	0	1	1	1	1	1	0	0	1	1	1	1	1	1	0
178	Are local area educational institution programs adequate for military fa	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179	Are there educational opportunities at all college levels within a 30-mile	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180	Are college education courses available on the base?	1	1	0	0	1	1	1	1	[illegible]	[illegible]	1	1	0	1	1	1	1	1	1
184	Do military family members have reasonable access to medical/denta	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
185	Is the violent crime rate <758/100,000?	0	1	1	1	1	0	1	0	0	1	1	0	1	0	0	1	1	1	0
186	Is the property crime rate <4902/100,00?	1	1	1	1	1	0	1	1	0	1	1	1	0	0	0	1	1	1	1
187	Is the drug crime rate <402/100,000?	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0
	COST	0.519	1.185	0.889	0.000	1.185	1.185	1.185	0.889	0.889	1.037	1.037	1.037	1.037	0.667	1.185	1.037	1.037	1.185	0.889
188	Percent of all employees employed in technical operations is more tha	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
189	Percent of all employees employed in technical opertions is between 7	0	1	1	0	1	1	1	1	1	1	1	0	0	0	1	1	1	0	1
190	Percent of all employees employed in technical opertions is between 5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
191	Percent of all employees employed in technical opertions is between 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
192	Percent of all employees employed in technical opertions is less than 3	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
193	Percent of overhead performed by government civilians is greater tha	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
194	Percent of overhead performed by government civilians is between 70	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
195	Percent of overhead performed by government civilians is between 50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
196	Percent of overhead performed by government civilians is between 30	0	1	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0
197	Percent of overhead performed by government civilians is less than 30	0	0	1	0	0	0	1	1	1	1	1	0	1	0	1	1	1	0	1
198	Percent of technical operations performed by government civilians is g	0	0	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1
199	Percent of tech. operations performed by government civilians is betw	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0
200	Percent of tech. operations performed by government civilians is betw	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0
201	Percent of tech. operations performed by government civilians is betw	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0
202	Percent of tech. operations performed by government civilians is less th	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	LOSS IMPACT	0.000	1.650	0.942	0.000	2.000	1.751	1.899	1.254	1.004	1.043	0.296	1.650	0.148	0.000	1.751	1.751	1.191	0.498	0.148
203	Directly impact naval force training. (20 TO 39 WYs in Training/Simulatio	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0
204	Directly impact naval force training. (40 or higher WYs in Training/Simula	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
205	Directly impact existing naval force readiness. (100 to 499 WYs in Lifetim	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	1	0
206	Directly impact existing naval force readiness. (500 or higher WYs in Life	0	1	1	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0
207	Directly impact future naval force development. (100 to 499 WYs in RDT	0	1	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0
208	Directly impact future naval force development (500 or higher WYs in R	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0
209	Loss of activity adversely affects top 25% of technical mission areas.	0	1	1	0	1	0	1	1	0	0	0	1	0	0	1	1	1	0	0
210	Loss of activity adversely affects 2nd 25% of technical mission areas.	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0
211	Loss of activity adversely affects 3rd 25% of technical mission areas.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
		8.30	38.58	31.16	5.77	45.47	37.64	31.45	35.83	[illegible]	[illegible]	18.70	38.31	15.30	15.35	50.62	34.86	37.73	12.76	18.27

BSAT BASE STRUCTURE ANALYSIS TEAM

4401 Ford Avenue • Post Office Box 16268 • Alexandria, Virginia 22302-0268 • (703) 681-0490

RP-0491-F9
BSAT/OZ
7 DEC 1994

MEMORANDUM FOR THE BASE STRUCTURE EVALUATION COMMITTEE

Subj: REPORT OF BSEC DELIBERATIONS ON 7 DECEMBER 1994

Encl: (1) BRAC-95 Scenario Development Data Calls 107-119
(2) Briefing Materials for COBRA Analysis (Whirl Tower)
(3) Briefing Materials for COBRA Analysis (NASEU Philadelphia)
(4) Briefing Materials for COBRA Analysis (NATSFA Philadelphia)
(5) COBRA Cost Analysis (Costs Allowed/Costs Disallowed)
(6) Environmental Summary, with Economic Quotient Matrix
(7) Economic Selection Criteria

1. The sixty-second deliberative session of the Base Structure Evaluation Committee (BSEC) convened at 0915 on 7 December 1994 at the Center for Naval Analyses. The following members of the BSEC were present: Ms. Genie McBurnett; Vice Admiral Richard Allen, USN; Vice Admiral William A. Earner, Jr., USN; Lieutenant General Harold W.Blot, USMC; Lieutenant General James A. Brabham, USMC; and Ms. Elsie Munsell. Mr. Robert B. Pirie, Jr., Chairman arrived at 1005. Mr. Charles P. Nemfakos, Vice Chairman, arrived 1030. The following members of the BSAT were present: Mr. Richard Leach; Mr. David Wennergren; Ms. Anne Rathmell Davis; and Captain Richard Ozmun, JAGC, USN.

2. Mr. Wennergren presented the draft Scenario Development Data Calls 107-119. See enclosure (1). Upon reviewing the data calls the BSEC directed: in scenario 109 the word "California" be inserted after "Los Alamitos"; in scenario 111 the words "from" and "to" be deleted, the words "assigned to" be inserted after the word "assets" and the words "during BRAC-93" be inserted after "AFB;" and in scenario 119, second sentence, the words "increases in" be inserted after the word "Show" and the words "in Norfolk" be deleted. With the above changes, the BSEC approved the data calls.

3. The BSEC recessed at 0945 and reconvened at 0950. All the members of the BSEC and the BSAT present when the session recessed were once again present. In addition, Mr. John Turnquist, and Captain Robert L. Moeller, Jr., USN, were present.

4. BRAC-93 closed NADEP Pensacola, with the recommendation that the Whirl Tower and dynamic component facility be relocated. At the BSEC meeting on 1 December 1994 the BSEC directed the BSAT to run a COBRA analysis on the closing and disposing of the Whirl

Subj: REPORT OF BSEC DELIBERATIONS ON 7 DECEMBER 1994

Tower. Mr. Wennergren briefed the results of the COBRA analysis. The one-time costs were $1.4 million, steady-state savings were $0.1 million, the return on investment was immediate, and the 20 year net present value was $3.7 million. See enclosure (2). The disposal action results in a savings of $2.2 million (avoids recurring costs of relocating/maintaining the Whirl Tower at Cherry Point) which offsets the one-time costs ($1.4 million) for disassembly of the Whirl Tower. Noting the immediate return on investment and the fact that workload is declining and excess capacity exists, the BSEC accepted the results of the COBRA analysis for the closing/disposing of the Whirl Tower.

5. Captain Moeller departed. Mr. Gerald Schiefer entered the deliberative session.

6. Mr. Wennergren briefed the COBRA analysis for consolidating NAESU Philadelphia at NAWC Patuxent River. See enclosure (3). At the deliberative session on 28 November 1994 the BSEC questioned that $1.3 million was needed to rehabilitate the receiving spaces at Patuxent River as the spaces were already in usable condition. In that instance the BSEC believed that the COBRA standard rate for rehabilitation (75% of the cost of new construction) was too high. Mr. Wennergren advised that the data had been refined using 40% of new construction costs vice the COBRA rate of 75%. This resulted in military construction costs at NAWC Patuxent River of $0.7 million vice the previously submitted $1.3 million. The BSEC accepted the results of the COBRA analysis for NAESU Philadelphia.

7. Mr. Schiefer briefed the COBRA analysis for closing NATSF Philadelphia and consolidating at NAWC Patuxent River. See enclosure (4). At the deliberative session on 28 November 1994 the BSEC directed the BSAT to further scrutinize certain moving and construction costs. In response to that direction, Mr. Schiefer advised that the number of tons of publications to be maintained at the receiving site had been reduced from 292 tons to 222 tons. Mr. Schiefer further advised that the military construction rehabilitation costs at the receving site had been recalculated using 40% of new construction costs vice the COBRA rate of 75%, resulting in a savings of $2.6 million. The number of billets eliminated were increased by 8. With the above changes the one-time costs were reduced from $9.6 million to $7.2 million and the return on investment was reduced from 7 years to 4 years. The BSEC accepted the results of the COBRA analysis for the closing of NATSF Philadelphia and consolidating at NAWC Patuxent River.

8. Mr. Schiefer departed the deliberative session.

9. Mr. Pirie advised the BSEC that he had received a letter from the Deputy Under Secretary of Defense (Logistics) recommending that in those instances when COBRA analysis was not run on a JCSG

Subj: REPORT OF BSEC DELIBERATIONS ON 7 DECEMBER 1994

alternative that the reasons for not doing so be justified/documented to ensure the integrity of the JCSG process. The BSEC took the DUSD (Logistics) recommendation under advisement.

10. Mr. Schiefer, Mr. Wennergren, Ms. Murrell Coast, Captain Moeller, Commander Mark Samuels, CEC, USN, Commander Dennis Biddick, CEC, USN, Commander Judy Cronin, USNR, and Lieutenant Christina May, USN, entered the deliberative session.

11. Mr. Schiefer and Captain Moeller presented for BSEC concurrence [redacted]. See enclosure (5). [redacted] The BSEC agreed that theses costs should be allowed as "special and unique" costs for the purposes of the COBRA analysis. [redacted] The BSEC approved the costing methodology for COBRA analysis as presented.

12. Mr. Schiefer, Ms. Coast, Captain Moeller, Commander Samuels, Commander Biddick, Commander Cronin, and Lieutenant May departed. Captain Nordeen, Captain Rose, Captain Vandivort, Captain Ferguson, Commander Souders, and Commander Heckelman entered the deliberative session.

13. Lieutenant Commander Leinberry briefed the BSEC concerning the proposed Environmental Summary. See enclosure (6). The Environmental Summary reflects the process used to consider environmental issues in arriving at final recommendations. The Environmental Summary includes the results of the Environmental Quotient, Air Quality Assessment/Air Impacts of Associated Moves, Impacts to Closing Bases, and Impacts to Receiving Bases. All of the information is based upon certified data. The Environmental Quotient is based on the premise that in a downsizing DON the less management effort devoted to handling environmental issues contributes to a more efficient utilization of resources. The higher the Environmental Quotient, the lower the management effort. See Report of BSEC Deliberations on 16 August 1994. The BSEC approved the Environmental Summary/Environmental Quotient process.

14. Captain Ferguson briefed the BSEC on the analysis of Economic Impact in the BRAC-95 process. See enclosure (7). The DON is very concerned about economics and has made every effort to fully

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

NEXT ECHELON LEVEL (if applicable)

D. K. Kruse; Captain, USN	D K Kruse
NAME (Please type or print)	Signature
Commander	7/28/94
Title	Date
Carderock Division, USN	
Activity	

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

NEXT ECHELON LEVEL (if applicable)

D. P. Sargent, Jr.; RADM (Sel), USN	
NAME (Please type or print)	Signature
Commander	
Title	Date
Naval Surface Warfare Center	
Activity	

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print)	Signature
Title	Date
Activity	

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

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

NAME (Please type or print)	Signature
Title	Date
Activity	

priate 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 2l., 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..

Table 1B - Base Operating Support Costs (DBOF Overhead)			
Activity Name: NSWC-Annapolis			UIC: 61533
Category	FY 1996 Net Cost From UC/FUND-4 ($000)		
	Non-Labor	Labor	Total
1. Real Property Maintenance Costs:			
1a. Real Property Maintenance (>$15K)	1090.0	60.0	1150.0
1b. Real Property Maintenance (<$15K)	1650.0	900.0	2550.0
1c. Minor Construction (Expensed)	1.0	0.0	1.0
1d. Minor Construction (Capital Budget)	0.0	0.0	0.0
1e. Sub-total 1a. through 1d.	[redacted]	960.0	3701.0
2. Other Base Operating Support Costs:			
2a. Command Office	105.0	18.5	123.5
2b. ADP Support	967.0	916.0	1883.0
2c. Equipment Maintenance	376.7	0.0	376.7
2d. Civilian Personnel Services	75.0	210.0	285.0
2e. Accounting/Finance	121.0	916.0	1037.0
2f. Utilities	1211.0	1274.3	2485.3
2g. Environmental Compliance	427.0	136.0	563.0
2h. Police and Fire	21.0	837.0	858.0
2i. Safety	81.3	83.0	164.3
2j. Supply and Storage Operations	78.0	142.0	220.0
2k. Major Range Test Facility Base Costs	0.0	0.0	0.0
2l. Other (Specify)	2623.0	2266.0	4889.0
2m. Sub-total 2a. through 2l:	[redacted]	6798.8	12884.8
3. Depreciation	2973.0	0.0	2973.0
4. Grand Total (sum of 1e., 2m., and 3.):	11800.0	7758.8	19558.8

Fuel Storage

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

NEXT ECHELON LEVEL (if applicable)

D. K. Kruse; Captain, USN	D. Kruse
NAME (Please type or print)	Signature
Commander	7/28/94
Title	Date
Carderock Division, USN	
Activity	

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

NEXT ECHELON LEVEL (if applicable)

D. P. Sargent, Jr.; RADM (Sel), USN	
NAME (Please type or print)	Signature
Commander	
Title	Date
Naval Surface Warfare Center	
Activity	

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print)	Signature
Title	Date
Activity	

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

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

NAME (Please type or print)	Signature
Title	Date
Activity	

DATA CALL 66
INSTALLATION RESOURCES

Table 1B - Base Operating Support Costs (DBOF Overhead)			
Activity Name: NAVSSES	UIC: 65540		
Category	**FY 1996 Net Cost From UC/FUND-4 ($000)**		
	Non-Labor	**Labor**	**Total**
1. Real Property Maintenance Costs:			
1a. Real Property Maintenance (>$15K)	2,237.0	244.0	2,481.0
1b. Real Property Maintenance (<$15K)	400.0	913.0	1,313.0
1c. Minor Construction (Expensed)	70.0	0.0	70.0
1d. Minor Construction (Capital Budget)	0.0	0.0	0.0
1c. Sub-total 1a. through 1d.	[redacted]	1,157.0	3,864.0
2. Other Base Operating Support Costs:			
2a. Command Office	290.0	297.0	587.0
2b. ADP Support	966.0	915.0	1,881.0
2c. Equipment Maintenance	143.6	0.0	143.6
2d. Civilian Personnel Services	410.0	650.0	1,060.0
2e. Accounting/Finance	207.0	916.0	1.123.0
2f. Utilities	2,353.0	0.0	2.353.0
2g. Environmental Compliance	869.0	1,597.0	2,466.0
2h. Police and Fire	16.0	432.0	448.0
2i. Safety	309.2	339.0	648.2
2j. Supply and Storage Operations	363.2	1,305.0	1,668.2
2k. Major Range Test Facility Base Costs	0.0	0.0	0.0
2l.1 Administrative Services (Mail Room, Directives, Photographic, etc.)	183.0	957.0	1,140.0
2l.2 Leave Liability	1,892.0	0.0	1,892.0
2l.3 SIPs	0.0	1,388.0	1,388.0

DATA CALL 66
INSTALLATION RESOURCES

21.4 Public Works (Training, Incentive Awards, Operating Support, TQL, Transportation of Vehicle & Equipment, Service Calls, PNSY Transportation)	385.0	5,000.0	5,385.0
21.5 Military Leave	0.0	781.0	781.0
21.6 Other Engineering Services	1,548.0	985.0	2,533.0
21.7 Base Communication	1,595.0	570.0	2,165.0
21.8 FECA	1,053.0	0.0	1,053.0
2m. Sub-total 2a. through 2l:	**[illegible]**	**16,132.0**	**28,715.0**
3. Depreciation	3,374.0	0.0	3,374.0
4. Grand Total (sum of 1c., 2m., and 3.) :	18,664.0	17,289.0	35,953.0

Document Separator