DCN 1354

MILITARY VALUE DATA CALL

TECHNICAL CENTERS

Category	Technical Center
Technical Center Site	NSWC, LOUISVILLE
Location/Address	LOUISVILLE, KY

	Page
Mission	
1. Mission Statement	1
2. Joint Service Missions	1
Technical Functions	
3. Technical Functions Resource Allocations	3
Manpower	
4. Work Breakdown Structure	4
5. Technical Staff Qualifications	8
Facilities and Equipment	
6. Special Facilities/Equipment Resources	23
7. General Facilities/Equipment Resources	23
Location	
8. Geographic Location	26
Features and Capabilities	
9. Computational Facilities	29
10. Mobilization Responsibility and Capability	32
11. Range Resources	34

Quality of Life

12. Military Housing 34
13. MWR Facilities 44
14. Base Family Support Facilities 46
15. Metropolitan Areas 48
16. VHA 49
17. Off-base Housing Rental and Purchase 50
18. Sea Intensive Ratings 53
19. Commute 53
20. Educational Opportunities 54
21. Employment Opportunities 57
22. Medical/Dental 57
23. Crime Rate 58

TAB A Technical Operations: Functional Support Area - Life Cycle Work Area Form

TAB B Facilities and Equipment: Facilities/Equipment Capability Form

TAB C Range Resources: Range Capability Form

Appendix A Functional Support Areas - Life Cycle Work Areas List

Appendix B Definitions for Functional Support Areas - Life Cycle Work Areas

MILITARY VALUE MEASURES

MISSION

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

The Naval Surface Warfare Center (NSWC), Ordnance Station (ORDSTA), Louisville's mission was assigned by the Chief of Naval Operations in OPNAV NOTICE 5450, Ser 09B22/1U510577, dated 23 December 1991. This document states that the mission is to support the Crane Division, Naval Surface Warfare Center by providing engineering, technical, material and logistics support to the Fleet for combat subsystems, equipments and components; gun and gun fire control systems; surface missile systems launchers; rocket motor casings; and distribution of naval drawings. Execute other responsibilities as assigned by the Commander, Crane Division, Naval Surface Warfare Center.

As reported in BRAC95 data call #1, our mission is to provide **responsive engineering and industrial base support for weapons systems, subsystems and components**. In terms of skilled people, facilities, product knowledge, and the ability to integrate engineering with "hands on" industrial processes, Crane provide the **broadest, deepest and most advanced industrial base capability that the Navy has**.

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

- NSWC, Louisville, as ISEA for the MK 19 MOD 3, 40 MM Grenade Machine Gun is the only depot authorized to provide class "A" depot level maintenance interservice support through the operational life of the equipment.

Requirements include but are not limited to:

1. Develop and coordinate overhaul plan.
2. Develop repair procedures.
3. Provide overhaul and repair and/or modification of equipment.
4. Provide periodic reviews of programs.
5. Negotiate annual mutual agreeable work specifications.
6. Participate as technical advisor to sponsor.
7. Distribute repaired ordnance in accordance with principal instructions.

Equipments are presently reworked under the following DMISA's or funding:

USMC Contract II	NAVSEA	91-05-AMPA
USA Contract II	NAVSEA	91-01AAWMI

- NSWC, Louisville, is designated by the DoD Joint Center for FCIM letter of 7 April, 1992 as one of seven original Flexible Computer Integrated Manufacturing (and Repair) Process Validation Enterprises (the only Navy site for mechanical parts). This designation is also contained in the DON and Headquarters, USMC Strategic Implementation Plan for Flexible Computer Integrated Manufacturing (FCIM) dated 25 November, 1992. JLSC and the Plan require that this Station: Partner with other DoD, Agency and/or industry to share lessons learned and leverage resources in the pursuit of reducing lead time and cost to achieve the over-all industrial capability and capacity needed in the future. In this capacity, NSWC, Louisville serves as the Dod testbed for developing, verifying and applying new/emerging technology to all phases of product engineering (reverse engineering, production processes, manufacturing and repair) and transition these to other organic sites and the private sector; provide concurrent R&D and engineering, transition to production and provide full life cycle technical support; maintain/provide DoD last/only/ source capability for difficult to procure/manufacture/repair/modernize mechanical items particularly for the Navy Mission and Joint Mission critical items.

- NSWC, Louisville is designated by the Joint Engineering Data Management and Control System (JEDMICS) Program Management Office, by Memorandum of Agreement dated 16 Dec 1993, as the Beta test site for JEDMICS baseline changes.

TECHNICAL FUNCTIONS

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

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

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

MANPOWER

4. **Work Breakdown Structure.**

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

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

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

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

NOTES:

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

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

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

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

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

Table 4.1
(Activity: NSWC, LOUISVILLE) (UIC: N00197)

Function	Space allocated (Gross SQFT)	Work Years	Civilian Persnel onboard	Contract Work Years	Military Personnel Onboard	
					Off	Enl
ADMINISTRATION						
Command (CO/XO/TD/etc.)	8,216	35.8	21	0	2	0
Comptroller	3,772	6.5	11	20	0	0
Admin	0	36.7	62	0	0	0
Human Resources	32,969	32.0	27	0	0	0
OPERATIONS SUPPORT						
Supply Management	185,180	125.6	143	0	1	0
Consolidated Computational Computer Support	14,199	28.4	48	16	0	0
Information Systems and Communications	1,970	23.1	39	0	0	0
Safety/OSH/Environmental	11,394	5.9	5	0	0	0
INFRASTRUCTURE						
Physical Security	4,408	35.6	30	0	0	0
Public Works/Staff Civil Engr	68,629	34.7	36	78	0	0
Fire Protection	1,458	4.7	4	0	0	0
Medical/Dental	3,993	8.3	7	0	0	0
Military Support	22,527	0.0	0	0	0	0
Air/Waterfront Operations	N/A	N/A	N/A	N/A	N/A	N/A
Other	0	0.0	0	0	0	0
TECHNICAL STAFF						
Technical Operations	N/A	N/A	1,732	99.2	0	10
Totals	358,715	377.3	2,165*	214.2	3	10

***85 employees seperated on 4/1/94 as a result of SIP/VERA**

Table 4.2, General Support Resources for all Detachments (Activity: NSWC, LOUISVILLE) (UIC: N00197)

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

Table 4.3, Previous BRAC Impact to General Support Resources for (Activity: NSWC, LOUISVILLE) (UIC: N00197)

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

5. **Technical Staff Qualifications.**

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

Table 5.1, Technical Staff Education Level for
(Activity: NSWC, LOUISVILLE) (UIC: N00197)

Highest Degree Attained	Years of Government and/or Military Service					
	Less than 3 Years	3-10 Years	11-15 Years	16-20 Years	More than 20 Years	Total
Grade School	0	11	15	6	15	47
High School	37	417	396	219	338	1,407
B.A./B.S	5	114	37	8	66	230
M.A./M.S	1	16	18	2	11	48
Ph.D./ M.D.	0	0	0	0	0	0
Total	43	558	466	235	430	1,732

Table 5.2, Technical Staff Education Level for all Detachments (Parent Activity: NSWC, LOUISVILLE) (UIC: N00197)

Highest Degree Attained	Years of Government and/or Military Service					
	Less than 3 Years	3-10 Years	11-15 Years	16-20 Years	More than 20 Years	Total
Grade School	N/A	N/A	N/A	N/A	N/A	N/A
High School	N/A	N/A	N/A	N/A	N/A	N/A
B.A./B.S	N/A	N/A	N/A	N/A	N/A	N/A
M.A./M.S	N/A	N/A	N/A	N/A	N/A	N/A
Ph.D./ M.D.	N/A	N/A	N/A	N/A	N/A	N/A
Total	N/A	N/A	N/A	N/A	N/A	N/A

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

Table 5.3, Technical Staff Academic Fields for (Activity: NSWC, LOUISVILLE (UIC: N00197)

Academic field	Number
Physics	0
Chemistry	1
Biology	0
Mathematics/Statistics/ Operations Research	1
Engineering	42
Medical	0
Dental	0
Computer Science	0
Social Science	0
Other Science	0
Non-Science	3
Total	47

Table 5.4, Technical Staff Academic Fields for all Detachments (Parent Activity: NSWC, LOUISVILLE) (UIC: N00197)

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

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

Unique aspects that help:

- NSWC, Louisville is located in an area where the labor supply for high caliber engineers and highly skilled journey level trades people is excellent. There are nine accredited colleges, universities and technical schools located within 30 miles of the Station.

- NSWC, Louisville recruits and retains a multitude of engineers from the nationally recognized University of Louisville Speed Scientific School.

- Availability of state of the art equipment and capability to be involved from product conception to fielded system attract professional employees.

- The cost of living and housing in the Louisville area is lower than the national average.

- The city of Louisville is ranked in the country's top ten cities most desirable to live in.

- NSWC, Louisville is located in the heart of a metropolitan area, within 1 mile of a major airport, 3 interstate highways, and six other major cities within a 300 mile radius.

- NSWC, Louisville is nationally recognized for art and culture (e.g.) Center for the Arts, Museums, etc.).

- The city of Louisville and the surrounding Jefferson County is nationally recognized as a leader in medical research and care.

- Numerous quality and affordable child care facilities are located in the immediate area.

Unique aspects that hinder:

- None

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

- WEATHERING THE DESERT STORM, FCIM FOCUS, APRIL 1991

- NEDALS: ONE STOP SHOPPING, FCIM FOCUS, JULY 1991

- RAMP PDES GENERATION SYSTEM, FCIM FOCUS, OCTOBER 1991

- THE OPERATIONAL PHALANX DATA ANALYSIS CENTER (OPDAC), American Society of Naval Engineers (ASNE), October 1991

- NAVY ADVANCED GUN WEAPON SYSTEMS TECHNOLOGY, American Defense Preparedness Association, March 1992

- ANTENNA SYSTEM LEVEL TESTING UTILIZING AN OUTDOOR FAR FIELD RADAR RANGE AT NAVAL ORDNANCE STATION, LOUISVILLE, PRESENTATION OF PAPER AT INTER-SERVICE ANTENNA GROUP MEETING, APRIL 1992

- DECISION MAKING IN DESIGN AND MANUFACTURING USING OBJECT ORIENTED WINDOW SCHEME, American Society of Naval Engineers (ASNE), September 1992

- DECISION PROCESS MODELS FOR CAD FRAMEWORKS, American Society of Naval Engineers (ASNE), September 1992

- DESIGN AND IMPLEMENTATION OF A FEATURE-BASED AUTOMATED PROCESS PLANNING, American Society of Naval Engineers (ASNE), September 1992

- FLEX-O-THINKING, A CALS STRATEGY FOR THE 21ST CENTURY MANUFACTURING, American Society of Naval Engineers (ASNE), September 1992

- N/C COMMUNICATIONS VIA LOCAL AND WIDE AREA NETWORKS, American Society of Naval Engineers (ASNE), September 1992

- INTERSERVICE PARTNERSHIPS, FCIM FOCUS, SPECIAL EDITION, 1992-1993

- PROCESS VALIDATION ENTERPRISES SITE VALIDATION, FCIM FOCUS, SPECIAL EDITION, 1992-1993

- NAVAL SURFACE FIRE SUPPORT SYSTEMS DEFINITIONS, Naval Sea Systems Command Naval Surface Fire Support Symposium, February 1993

- RANGE EXTENSION NEAR TERM, American Defense Preparedness Association, April 1993

- REGAINING CONTROL OF MRP AFTER MANAGEMENT REDIRECTION, American Production and Inventory Control Society (APICS) Remanufacturing Seminar Proceedings, May 1993

- VIRTUAL PROTOTYPING USING KNOWLEDGE-BASED MODELING AND SIMULATION TECHNIQUES, American Society of Naval Engineers (ASNE), May 1993

- "GUNSMITHS TO THE NAVY", FCIM FOCUS, SUMMER 1993

- NAVY PVE FOR MECHANICAL PARTS, FCIM FOCUS, SUMMER 1993

- RAMP NOW WITH NC COMMUNICATIONS, Production Conference on Manufacturing and Production Technology, September 1993

- FLEXIBLE COMPUTER INTEGRATED MANUFACTURING FAST FORWARD AND FINE TUNED, APEX Conference, December 1993

- QUALITY MANAGEMENT SYSTEM, FCIM Focus, Winter 1994

- CYCLE TIME REDUCTION, American Society of Naval Engineers (ASNE), March 1994

- MIXED SIGNAL TESTING OF ANALOG TO DIGITAL CONVERTERS, HP Users Group, April 1994.

- FLEXIBLE COMPUTER INTEGRATED MANUFACTURING (FCIM) FOCUS, Edited and published by NSWC, Louisville quarterly since April 1991 (Magazine distributed to both private and public interested in FCIM)

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

- None

f. Identify any Nobel laureates employed at this activity.

- None

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

- None

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

- None

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

- None

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

- Motor Current Limiter, Navy case number 66923, patent filed and pending.

k. Identify any in-house staff that are members of the National Academy of Engineering.

- None

l. Identify any in-house staff that are members of the National Academy of Sciences.

- None

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

- Innovative Products, Inc. NCRADA-NSWCCD-93-005

n. What has been the activity's annual royalty income from CRDAs and patent licenses for each year since 1 January 1990?

- Non-profit organization, $0 income

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

- Electroslag Surfacing: Utilizes wire in strip form and flux to deposit a relatively wide weld useful in overlaying weldable metal object. The welding process can be used to provide a corrosion resistant surface, to restore a surface that has been worn and to modify an existing surface. Advantages are high deposition rates, excellent weld quality and minimum dilution of the base material. Currently in development, not in production and no published reference.

- MK 32 Torpedo Tube Air Flask: Manufacturing process developed at NSWC, Louisville in the early 1980's. This item is currently in production at the Louisville. Low alloy, high strength steel pressure vessel. Ejects torpedo from MK 32 Torpedo Tube. NSWC, Louisville is the **only qualified** producer. No published reference.

- Harpoon Warhead: Manufacturing process developed at NSWC, Louisville in the 1970's. Currently produced by private industry. Low alloy, high strength anti-ship penetrating warhead. No published reference.

- Tomahawk Warhead: Manufacturing process developed at NSWC, Louisville in the 1980's. Currently produced by private industry. Titanium penetrating warhead. Used in cruise missile weapon system. No published reference.

- Single Ship Deep Sweep Container (SSDC): Developed Single Ship Deep Containers to store mine sweeping equipment aboard the New Mine Coastal Hunter (MHC) class ships. Combined high grade stainless steel with composites to produce a lightweight rigid structure with low magnetic signature. Product was developed from initial concept through prototype, testing and production. No published reference

- Assault Amphibious Vehicle Full Width Mine Rake: The Full Width Mine Rake (FWMR) was designed, developed and manufactured at NSWC, Louisville for use with the Marine Corps Assault Amphibious Vehicle (AAV). The purpose of the FWMR is to clear surf zones and beaches of both surface-laid and anti-tank mines. Attached to the AAV, the FWMR is capable of deploying from a raised travel position to a lowered operational position within 10 seconds by the use of hydraulic actuators. The FWMR is salt water submersible and corrosion resistant. The special rake face is designed to allow the sand to freely flow through the tines while clearing a 144 inch path free of mines. The rake face decreases the force seen with conventional mine plows, thus, decreasing the necessary horsepower required to push the FWMR. No published reference.

* The NSWC, Louisville's Best Manufacturing Practices (BMPs) have been reviewed and documented by the Navy's BMP program team. The results of the survey were published in the report; Report of Survey Conducted at Crane Division - Naval Surface Warfare Center Crane, Indiana and Louisville, Kentucky, May 1993. The report was published by the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition.

APPROVED AND DOCUMENTED BMP'S AT NSWC. LOUISVILLE

MK 56 MOD 0 Standard Missile Rocket Motor: Manufacturing process was developed at NSWC, Louisville in the early 1960's. This item is currently in production at the Station. The ship launched Dual Thrust Rocket Motor made from low alloy, high strength steel manufactured by a spinning process. NSWC, Louisville is the **only qualified** producer.

MK 104 MOD 3 Standard Missile Rocket Motor: Manufacturing process developed at NSWC, Louisville in the early 1980's. State-of-the-art rocket motor. Low alloy, ultra high strength rocket motor used in vertical ship launcher systems. NSWC, Louisville is the **only qualified** producer.

"Reverse Engineering of Close In Weapon System Coolant Pump Overhaul

Louisville engineers use reverse engineering process to supply critical missing information such as in the Close In Weapons System to develop the overhaul and acceptance testing capability for various components and assemblies and investigating potential reliability enhancements."

APPROVED AND DOCUMENTED BMP'S AT NSWC. LOUISVILLE (con't)

"Analysis of a Far Field RF Test Range

Tests of the Close In Weapon System are conducted on a far field range using simulated radar targets. Before the completion of a new range, Louisville Site-NSWC personnel decided to analyze the area and take preventive measures to reduce RF reflection difficulties."

"Reverse Engineering of Waveguide Air Dryer Subsystem

Louisville again applied the reverse engineering process to resolve problems with the components of the Waveguide Air Dryer for the Phalanx Weapon System."

"Corrosion Control Using Polysulfide Sealants

Louisville Site-NSWC engineers incorporated polysulfide sealants into newly manufactured and overhauled Phalanx Close In Weapon System units to avoid corrosion problems that initially developed after deployment."

"Gear and Spline Reverse Engineering

Through reverse engineering in the gear and splined parts areas, Louisville personnel are addressing the problem of a spare parts requirement within DoD for which technical data needed to make or buy the part is proprietary or non-existent."

"Antenna Testing at Louisville

The RF/Microwave Branch of the Production Engineering Division has developed software and test setups to facilitate testing antennas on the Phalanx Close In Weapons System, the MK92 System, and the MK23 System."

"TE 304 Circuit Card Test Equipment

The Test Equipment 304, developed for $250,000 per unit instead of the $600,000 per unit cost of the TE 8009, was designed to replace the TE 8009 equipment used to perform acceptance testing on Phalanx circuit card assemblies."

"Development of Phalanx Component Test Systems

The Louisville Site Phalanx Production Engineering Division is tasked with developing overhaul requirements and associated test equipment and procedures for various components and sub-subsystem."

APPROVED AND DOCUMENTED BMP'S AT NSWC. LOUISVILLE (con't)

"No Fault Evident Process

Louisville developed a No Fault Evident process to reduce the times a PCB unit under test can repeatedly fail at the system level without being flagged for an evaluation."

"Gear Manufacturing Cell

The Louisville site made a significant move towards becoming a world class manufacturing facility by restructuring its gear manufacturing resources into a cellular, gear manufacturing focused factory."

"Submarine Valve Ball Overhaul Program

The Louisville Site-NSWC has developed a manufacturing process for the refurbishment of submarine valve balls."

"Plating Shop Gallery Monitoring Systems

The Site developed a method to remotely monitor and control valving in the gallery area located under the plating shop operating floor."

"Focused Factory

The Site has been very successful in developing the factory-within-the-factory concept with three specific examples."

"Laser Gasket Cutter and Plate Punch

Purchase and installation of a STRIPPIT Model FC 1250-30-1500 laser cutter and punch has effectively eliminated the problems faced with high cost and long lead times associated with purchasing or manufacturing a small quantity of gaskets, sheet metal stampings or plate shapes."

"Phalanx Provisioning - Interactive Computer-Aided Provisioning System

Louisville has implemented the Interactive Computer-Aided Provisioning System to automate provisioning development and submission."

"Phalanx Integrated Maintenance System

In response to several conditions with the Phalanx system, the Louisville site-NSWC initiated a development program-the Phalanx Integrated Maintenance System-to convert the traditional paper maintenance documentation to an Interactive Electronic Technical Manual and Integrated Diagnostic System."

APPROVED AND DOCUMENTED BMP'S AT NSWC. LOUISVILLE (con't)

"Operational Phalanx Data Analysis Center

The Operational Phalanx Data Analysis Center is an innovative fleet maintenance data analysis system developed to improve fleet support and provide some measurement of system performance goals."

"Manufacturing Resources Planning System

The Louisville Site-NSWC has developed a material requirements planning system for the management, control, scheduling, and statusing of inplant work and material procurements."

"Navy Engineering Drawing Asset Locator System

The Naval Seas Systems Command and Louisville developed an engineering drawing index called the Navy Engineering Drawing Asset Locator System to decrease time required to locate and order drawings."

"Reverse Engineering Using Laser Surface Mapping with Parts Digitizing System

The Parts Digitizing System at the Louisville Site-NSWC has great potential value for reverse engineering, technical data package generation, rapid prototying, and investment casting."

"Flexible Automatic Circuit Test Facility

The Flexible Automatic Circuit Test II system allows Louisville Site personnel to conduct electrical testing in less time and with greater accuracy than possible using manual techniques."

"MK 45 Gun Mount Team Overhaul

In an effort to improve the efficiency of its repair or overhaul process, gun mount overhaul personnel at the Louisville Site-NSWC redeveloped their repair process to address the actual gun mount condition."

"Phalanx Module Repair

The Louisville Module Repair Facility testing activity functions not only as an effective screening operation but also as an integral part of a cooperative corrective action system that includes government and contractor activities."

APPROVED AND DOCUMENTED BMP'S AT NSWC. LOUISVILLE (con't)

"Pipe Shop-Tubing Manufacture/Repair

A Teledyne Pines Model ENC75 numerical control pipe and tube bender was purchased to accommodate changes in the higher production rates in overhaul schedules."

"Distributed Numerical Control

A staff of six numerical control programmers develop or modify over 1,000 numerical control programs per year for the Louisville Site-NSWC machine shop. Louisville first implemented a distributed numerical control system in 1980 to eliminate the handling of punched tapes."

"Wire Marking System

The method of identifying individual electrical wires in wiring harnesses manufactured by the Louisville Site-NSWC has undergone several innovative improvements within the last ten years."

"Welding Positioner for Amphibious Assault Vehicle

The Louisville Site-NSWC has a formidable prototype/limited production run capability, demonstrated in its approach at solving the Amphibious Assault Vehicle Bradley Suspension Upgrade Program."

"Fiberglass Repair and Manufacture

Louisville Site-NSWC fiberglass personnel perform basic cosmetic repairs of gun shields, but also maintain manufacturing capabilities. For example, Louisville utilizes a mold-overlay process where layers of resin and fiber glass cloth are manually applied over a mold, followed by an air cure."

"Wire Electrical Discharge Machine

The Louisville Site-NSWC Wire Electrical Discharge Machine provides a unique, high precision, non-conventional machining capability to Louisville's Focused Factory Machine Shop."

"Honeycomb Panel Manufacture

The Louisville site has developed a process for the overhaul of the ASROC launcher by replacing the Honeycomb panels in the launcher cell rather than selectively repair any local area damage."

APPROVED AND DOCUMENTED BMP'S AT NSWC. LOUISVILLE (con't)

"Phalanx System Overhaul

The Phalanx Close In Weapon System overhaul facility provides an example of the Louisvile Site-NSWC's ability to initiate, facilitate, and implement a program."

"Gun Barrel Plating

The Louisville Site-NSWC has developed a specialized plating line within its modern plating facility to accomodate the unusual geometry of gun barrels being repaired.

"Gun System Engineering Support System Database

Louisville developed a flexible configuration status accounting database system to integrate support for several configuration management systems, and is primarily used to report data into the Ship Configuration and Logistics Support Information system master file."

"Phalanx Remanufacture

To address the high cost associated with procurement of equipment kits required for the conversion or overhaul of the Phalanx Close In Weapon System to the upgraded Block 1 configuration. Louisville has initiated the Phalanx Remanufacture program."

FACILITIES AND EQUIPMENT

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

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

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

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

7. **General Facilities.**

a. Is there any cash revenue generated by this activity? Example: Electricity generated at this activity and sold to the local community. If yes, describe.

- No cash revenue is generated by this activity.

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

- No MILCONS are programmed to be completed by FY 1995

(1) A description of the proposed facility with title and project number. Be sure to include the trailing alpha designator for BRACs-88, 91 and 93 realignment projects, i.e., P-xxxR, P-xxxS, P-xxxT .

(2) The functional support area(s) that the new facility will support. Refer to Appendix A.

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

(4) The additional square footage that this project will provide to the functional support area(s).

(5) The current working estimate (CWE) & planned beneficial occupancy date (BOD) of the project.

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

- No MILCONS are programmed to be completed after FY 1995.

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

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

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

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

(5) CWE & planned BOD.

d. What is the distance (in miles) to the nearest military airfield and/or pier not located at your site? Describe. Assume all previous BRAC closures have been executed.

- Kentucky Air National Guard is located at Louisville's Standiford Field (SDF). SDF is a full service commercial airport (i.e. commercial, air cargo, military, general aviation, corporate, private and postal aircraft service) that is located approximately one (1) mile east of NSWC, Louisville. This fully instrumented all weather airfield is home base for the 123rd Tactical Airlift Wing.

- The 100th Division Headquarters of the Army Reserves Training Center is located at Bowman field, a general aviation and military airport, that is located approximately (5) miles east of NSWC. Louisville.

- Godman Army Airfield, Fort Knox, Kentucky, is located approximately 30 miles south of the NSWC, Louisville site. This fully instrumented all weather airfield is home base for the following military operations:

  Kentucky Flight Detachment
  8/229 Attack Helicopter Battalion
  73d Aviation Support Facility
  Detachment 50th Medical Company (MEDEVAC)
  Detachment 5 of the 5th Weather Squadron (USAF)
  2B24 Flight Simulator Facility (UH-1)
  Fire Station #3
  Aviation Medical Clinic, USA MEDDAC

e. How many certified magazines, used for the storage of explosives, does this activity own or control? What is the total explosive weight storage capacity?

- None

8. **Geographic Location.**

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

- NSWC, Louisville's co-location of full spectrum life cycle engineering and depot overhaul/production capabilities unparalleled within DON, allows DON to retain its ability to be a "**smart buyer.**" Some of the primary imperative advantages that this location offers are:

  Reduction of corrective action lead times for fleet support

  Significant reduction in moderization development and implementation with "lessons learned" during depot maintenance being readily available to the engineering staff and vice versa from fleet operations to the engineering staff to the depot

  Provision of major **fixed** gun mount test stands, which would have to be duplicated if this location were to be lost, providing the capability for conducting moderization/safety installations, prototype proof-in, design & documentation verifications / validation / training

  The historic and continued development of the engineering and overhaul capabilities that resides at NSWC, Louisville are due in part to the equipment & facilities located here

- NSWC, Louisville is the **last remaining organic depot capability** for Naval Weapon Systems in the DON. We are more responsive to field service operations due to our central location in the country.

  Due to previous consolidation efforts, NSWC, Louisville has already become the comprehensive depot/engineering capability for Dod commodity group of Sea Systems Subgroup Weapon System. In preservation of DON readiness, NSWC, Louisville maintains required critical and unique capabilities found nowhere else in the DoD and could only be replicated at a great cost.

  Littoral warfare, in support of the Navy's new mission as defined in "**...From the Sea,**" depends heavily on the systems supported by the ranges & testing facilities at this location, which are consolidated in providing **full spectrum life cycle support**. NSWC, Louisville conducts Intermediate and Depot Level Maintenance (DLM) training in a central location for sailors from around the globe (U.S.and foreign Navy's alike). The training facility has been used to train Coast Guard personnel in the operation and maintenance of the PHALANX Close-In Weapon System. This capability does not exist in the Department of Transportation.

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

- One of the greatest benefits to NSWC, Louisville's location in the central midwest is that of providing a consolidated **"full spectrum"** activity in an affordable labor market that is capable of supporting the East and West coasts along with the Gulf Coast. Coupled with the co-location of engineering and industrial capabilities, this makes NSWC, Louisville an affordable one stop shop for our customers. The lower cost of living for this area attracts and retains quality technical people which sustains our stability, necessary for maintaining a **"smart buyer"** capability over the life cycle of a weapon system.

- NSWC, Louisville's central location (within the city of Louisville) has, enhanced our ability to demonstrate remarkable expediency in readiness and in the deployment of technical personnel. Inherent benefits of our location include:

  ACCESS TO AIR - Located just five miles from downtown Louisville and minutes from NSWC, Louisville is Standiford Field (SDF). SDF is a full service commercial airport that provides services for commercial, air cargo, military, general aviation, corporate, private and postal aircraft. It is serviced by 18 different airlines with over 100 flights perday. According to the Airport Association Council International, Standiford Field is the 10th largest air cargo airport in the world and the 5th largest in the United States. A $400 million dollar expansion to add parallel runways is now underway.

  Louisville, KY is considered the Midwest's **Crossroads** for many major interstates tied in with both the Atlantic, Pacific and Gulf Coasts (i.e. I-64 running from **Norfolk, VA** directly through Louisville, KY and I-65 running through Louisville to the Gulf Coast provides easy access for all trucking transportation).

  Close proximity to major air, rail, river and interstate transportation routes provides rapid deployment capabilities of equipment, supplies, personnel, etc.

  Historically, NSWC, Louisville has provides a stable workforce including high caliber engineers and highly skilled (journeymen) tradespeople.

  NSWC, Louisville is located close to major universities for providing training for service members and employees working with customers (see Q. #20 (b) for listing).

  This central location provides quicker response time from suppliers in the major industrialized region of the country.

  United Parcel Service (UPS) has its **primary** international and national operations hub located at the SDF. All air shipments are routed through this site. UPS has a sorting capacity of 160,000 packages or documents per hour supported by 90 to 100 flights per day. UPS serves over 185 countries and territories. Services include; next day air, second day, comprehensive logistics capabilities, and on-site customs clearance.

NSWC, Louisville is served by five railroads (SOO Line, CSX, CONRAIL, Norfolk Southern, and Paducah & Louisville) and is directly adjacent to CSX Transportation's Regional Railroad Freight Classification Yard (a major rail facility).

City of Louisville is located on a major inland water thoroughfare (Ohio River), which is a route for major barge lines serviced by the Louisville River Port Industrial Zone (proximity to the NSWC, Louisville is approximately **5** miles)

NSWC, Louisville is located within 30 miles of Ft. Knox. This activity provides firing ranges for the testing of major gun systems such as the **PHALANX, MK 45, and MK 75**

- Historically being a **"full spectrum"** activity allows NSWC, Louisville to maintain a high tech, state-of-the-art facility while providing DON with the ability to economically maintain the weapon systems already deployed to the fleet. NSWC, Louisville provides a central drawing repository for weapon system drawings providing the capability for short turn-around times for fleet support material, many of which would cost much more in private industry due to the low production volume. A prime example was the refitting of the USS IOWA after its accident. NSWC, Louisville has the ability to maintain the past while developing the future.

FEATURES AND CAPABILITIES

9. **Computational Facilities.**

a. Describe the general and special computational capabilities at this site. Include super computing, parallel computing, distributed computing and networking. Include high-speed data transfer, fiber optic links, microwave links, network interconnectivity and video teleconferencing capabilities. Do not discuss desktops and laptops except as they relate to networking.

- **COMPUTATIONAL CAPABILITIES**

NSWC, Louisville has a number of major computer systems used for tasks ranging from routine administrative functions to logistics and high level engineering functions. The logistics and high level engineering functions include development of three-dimensional engineering models for mechanical and electrical product design, production of phototools for printed circuit card manufacture, and production of master engineering drawings. Additional capabilities include a minicomputer based printed circuit board development system with schematic capture, and automated computer testing facilities such as digital and hybrid circuit board testers. Complex microprocessors and associated interfacing circuitry can be emulated with digital and analog simulators in conjunction with a hardware modeler. Several systems are used to assist in rapid prototyping efforts including Computer-Aided Tool Design (CATD) for developing three dimensional design models and two dimensional drafting documentation of special purpose tooling. Parts Digitization System (PARDS) is a state-of-the-art reverse engineering system used in conjunction with a Coordinate Measuring Machine (CMM) to create parts data, on computer, in international standard format. These systems are also used in support of prototype development projects for the Marine Corp, Army, Air Force and private sector customers.

- **WARGAMING, MODELING AND SIMULATIONS**

Wargaming is performed at NSWC, Louisville using the Joint Conflict Model (JCM). JCM is an interactive, two-sided wargame that allows investigations of advanced weapons technology and evaluations of tactics and countermeasures. Results are exported to desktop microcomputers for analysis to determine effectiveness of weapons systems proposed for future deployment. JCM is run on a distributed system of three minicomputers.

TESTAIDIII and Hierarchical Integrated Test Simulator (HITS) provide simulator-based test program generation for digital circuit card assemblies. These systems create software models of circuit cards, insert faults into those models and generate test patterns.

The PHALANX Emulation, Simulation, and Maintenance Facility (ESMF) capabilities include software development review for the High Order Language Computer (HOLC), and software development for the embedded computer used in the PHALANX Weapon System.

A Computer Aided Design (CAD) system is used to generate three dimensional wire frame and solid geometric models, permitting export of Initial Graphics Exchange Standard (IGES) or Data Exchange Format (DXF) formats for subsequent generation of scale mock-ups via stereo lithography. Special modeling and simulation capabilities include modeling of digital signal processing and analog control of mechanical systems, finite element analyses, and interior or exterior ballistics simulations for both solid and liquid propellant.

- **HARDWARE-IN-THE-LOOP**

Simulated targets are used to verify the operability of overhaul and modernized PHALANX weapon systems to determine their ability to detect, track, and destroy incoming threats. The PHALANX Far Field Radar Range uses test equipment controlled by a minicomputer that interfaces with the weapon system and the radar range. This system allows for the acquisition and analysis of weapon system data, control of the weapon system, storage of test programs, test results, and data processing routines. The interfaces are capable of presenting simulated targets at various speeds to the weapon system by hardware-in-the-loop emulation.

- **INFORMATION RESOURCES**

Time and attendance, financial inventory, and manufacturing process tracking are processed on a series of minicomputers using the Material Requirement Planning system (MRP-II) and the Production Management System (PMS). These processes are distributed between systems and are also paralleled to prevent catastrophic losses. Additional functions such as the Station's tool control system, payroll certifications, and testing and development of the Industrial Logistics Support Management Information System (ILSMIS) are processed on a dual processor mainframe computer. This mainframe computer also supports the Gun System Engineering Support System (GSESS). GSESS supports the Station's In Service Engineering Agent (ISEA) requirements, provides submissions to the Ships Configuration and Logistics Support Information System (SCLSIS) and is used by the Fleet Modernization Program to supply information to the Alteration Installation Planning System.

File sharing, printing, electronic mail and scheduling capabilities, including connectivity to Internet mail services, are provided by several microcomputer based file servers and minicomputer hosts. Additionally, information on personnel regulations, hazardous materials, and material specifications and suppliers is provided by a CD-ROM server. An electronic bulletin board system is being established to provide information on various close-in weapons systems. This system will be connected to the Station Local Area Network (LAN), the Defense Data Network (DDN), and to bulletin board networks at other DoD activities through a satellite link.

Control and monitoring of the Station's Plating Shop and Industrial Wastewater Treatment Facility is performed by a system of industrial programmable controllers. These controllers are linked to an industrial computer running supervisory control and data

acquisition software. Real time data access is provided to desktop computers in the Plating Shop through a network connection with the industrial computer.

- **NETWORK AND EXTERNAL CONNECTIVITY**

Connectivity for over 1200 hosts, workstations and printers is provided through the use of a Station-wide Broadband network. This network utilizes three network communication channels along with several video channels. The video channels support Station security and training. A dedicated high speed T1 communication line transparently links the Crane Division networks for Division-wide integration of computer systems. Other dedicated lines exist to allow access to services and networks such as the NAVNET, DDN, Internet, ICPNET, Splicenet, Defense Civilian Personnel Data System (DCPDS) and Defense Civilian Payroll System (DCPS). Additionally, the Station's access to the Streamlined Automated Logistics Transmission System (SALTS), provides an electronic link via a bulletin board to all ships in the fleet and most Naval installations.

The Station maintains a video teleconferencing room capable of point to point conferences with all activities connected to the Defense Commercial Telecommunications Network (DCTN) or the Sprint commercial network.

The PHALANX Fleet Automated Data Support system (PFADS) supports PHALANX Field Service by allowing deployed elements to maintain constant detail records during any effort, and to produce reports and Material Condition Reviews (MCR's) while on-site with customers. Access to the PFADS system is by dial-up access through a toll free number.

- **SERVICES TO EXTERNAL CUSTOMERS**

Additionally, NSWC, Louisville provides several services to other government facilities worldwide. These services include the Navy Engineering Drawing Asset Locator System (NEDALS), which is a computer-based index of engineering data that provides locator and ordering capabilities for engineering drawings of Navy weapon systems. NEDALS provides data and updates to the Military Engineering Drawing Asset Locator System (MEDALS).

Another service provided is the Joint Engineering Data Management Information and Control System (JEDMICS). This system is a digital imaging system for the acquisition, storage, management, and distribution of engineering technical data and other published material related to the operation and maintenance of ships, aircraft, and weapons systems. JEDMICS is hosted on a distributed computer system.

The Station also hosts an electronic library of documents, and bulletin board, in support of the Navy's Shipboard Physical Security (SPS) programs.

Rolling Airframe Missile (RAM) Program Office, PEO(TAD) and NSWC, Port Hueneme Division have connectivity to the Phalanx's HP 9000 Model 850 to review and make

comments on documents developed by NSWC, Louisville, to query NSWC, Louisville's databases to review expenditures and monitor progress on RAM projects, and for electronic correspondence.

- **NEW INITIATIVES**

Several new initiatives are in process at NSWC, Louisville, perhaps the most important of which is Flexible Computer Integrated Manufacturing (FCIM). This Station is the primary Navy and Joint/DoD testbed for developing, verifying, and applying new and emerging technology and processes to all phases of FCIM, and transferring these to other public and private concerns. This Station is leading DoD in becoming the first fully automated, full spectrum, Product Engineering Facility. FCIM is a major DoD initiative with the goal of reducing lead time and cost in manufacturing by automating and standardizing (internationally) processes within the lead time cycle. NSWC, Louisville is one of seven original FCIM sites designated by DoD, and one of two designated for mechanical parts. A real-time shop floor control system is being tested prior to deployment DoD wide. FCIM is supported via the Station LAN, connecting such services as Computer-Aided Tool Design (CATD), Computer Aided Manufacturing (CAM), Computer Aided Process Planning (CAPP), Rapid Acquisition of Manufactured Parts (RAMP), and the Parts Digitization System (PARDS). Another new initiative in process at NSWC, Louisville is Electronic Data Interchange (EDI). EDI is used for the acquisition of manufactured mechanical and electrical parts. EDI is a DoD initiative intended to alleviate extensive administrative lead times in the acquisition process. EDI uses a standard format to transmit Requests for Quotes, Response to Quote, technical documentation, funding documents, and shipping information.

10. **Mobilization Responsibility and Capability.**

a. Describe any mobilization responsibility officially assigned to this site. Cite the document assigning the responsibility.

- The mobilization responsibilities of NSWC, Louisville is established by OPNAVNOTE 5450 Ser 09B22/1U510577 and COMNAVSEASYSCOM letter 3060 Ser 03/0158 S-664 of 8 Nov 1991. The NSWC, Louisville Mobilization Plan, dated September 1992, supports the NAVSEASYSCOM Logistics Support and Mobilization Plan (NAVSEA LSMP) and "provides for the systematic and selective movement from a normal state of peacetime prepardness to supporting the expansion and resdiness of the fleet to a warfighting positure".

(1) What functional support area(s) does this responsibility support? Refer to Appendix A for the list of functional support areas?

- Mobilization responsibilities for NSWC, Louisville includes a full spectrum of overhaul, repair, upgrade and manufacturing for virtually all naval and many non-Naval weapons

systems, components, and subassemblies. Examples of systems supported include: PHALANX Close-In Weapons Systems (CIWS), rocket motor casings, decoy launching systems, valve ball overhauls, mine clearing rakes, Tartar/Terrier Launchers, Anti-Submarine Rocket (ASROC) Launchers, Armored Box Launchers (ABLs), NATO Sea Sparrow Launchers, Surface Vessel Torpedo Tubes, Missile Fire Control Systems (MFCS), Anti-Submarine Warfare (ASW) Systems, Gun Fire Control Systems (GFCS), Ship Self Defense Systems (SSDS), Target Acquisition Systems (TAS) and all Shipboard Physical Security (SBS) Systems.

(2) What portion of the work years and dollars, as reported in each applicable functional support area reported in Tab A, are spent solely on maintaining your activity's readiness to execute the mobilization responsibilities?

- None, capability and capacity is inherent of the In-Service Engineering Agent Function

(3) How many additional personnel (military & civilian) would be assigned to your activity as part of the mobilization responsibility? Include separately any contractor assets that would be added.

- If total mobilization were to be achieved, employment would increase to approximately 5000 civilian personnel. This is based on utilizing the current facility with no modification and operating three work shifts.

b. Does your activity have adequate facilities to support your mobilization responsibilities? (yes/no)

- Yes, there are adequate facilities to support mobilization efforts.

(1) If yes, is any space assigned for the sole purpose of maintaining mobilization readiness? (yes/no) If yes, list the square footage assigned.

- No space has been assigned for the sole purpose of maintaining mobilization readiness.

(2) If no, what repairs, renovations and/or additions are required to provide adequate facilities? What is the estimated cost of this work?

- Not applicable, no renovations or additions would be required.

(3) Are there any restrictions that would prevent work (noted in paragraph 10.b.(2) above) from taking place (i.e., AICUZ, environmental constraints, HERO, etc.)? If yes, describe.

- Not applicable, additional space would not be required.

c. Describe any production facilities that would be activated in case of a future

contingency.

- 40,000 square feet of under utilized facility capacity

d. Is your activity used as a Reserve Unit mobilization and/or training site?

- Yes, NSWC, Louisville Detachment 109 attached to Naval & Marine Corp., Louisville, KY.

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

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

QUALITY OF LIFE

12. **Military Housing**

(a) Family Housing:

(1) Do you have mandatory assignment to on-base housing? (circle) yes **NO**

(2) For military family housing in your locale provide the following information:

Type of Quarters	Number of Bedrooms	Total number of units	Number Adequate	Number Substandard	Number Inadequate
Officer	4+	3	3	0	0
Officer	3	2	2	0	0
Officer	1 or 2	0	0	0	0
Enlisted	4+	1	1	0	0
Enlisted	3	2	2	0	0
Enlisted	1 or 2	0	0	0	0
Mobile Homes	0	0	0	0	0
Mobile Home lots	0	0	0	0	0

(3) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

Facility type/code:
What makes it inadequate?
What use is being made of the facility?
What is the cost to upgrade the facility to substandard?
What other use could be made of the facility and at what cost?
Current improvement plans and programmed funding:
Has this facility condition resulted in C3 or C4 designation on your BASEREP?

- This question does not apply, currently there are no substandard quarters.

(4) Complete the following table for the military housing waiting list.

Pay Grade	Number of Bedrooms	Number on List[1]	Average Wait (wks)
O-6/7/8/9	1	NA	NA
	2	NA	NA
	3	0	0
	4+	0	0
O-4/5	1	NA	NA
	2	NA	NA
	3	1	8-12
	4+	0	>12
O-1/2/3/CWO	1	NA	NA
	2	NA	NA
	3	1	>12
	4+	0	>12
E7-E9	1	NA	NA
	2	NA	NA
	3	1	>12
	4+	2	>12
E1-E6	1	NA	NA
	2	NA	NA
	3	NA	NA
	4+	NA	NA

[1]As of 31 March 1994

[1]As of 31 March 1994.

(5) What do you consider to be the top five factors driving the demand for base housing? Does it vary by grade category? If so provide details.

	Top Five Factors Driving the Demand for Base Housing
1	Proximity to Station
2	Size of units
3	Quality of units
4	Schools
5	On-base amenities

(6) What percent of your family housing units have all the amenities required by "The Facility Planning & Design Guide" (Military Handbook 1190 & Military Handbook 1035-Family Housing)?

- 100 percent

(7) Provide the utilization rate for family housing for FY 1993.

Type of Quarters	Utilization Rate
Adequate	97%
Substandard	NA
Inadequate	NA

(8) As of 31 March 1994, have you experienced much of a change since FY 1993? If so, why? If occupancy is under 98% (or vacancy over 2%), is there a reason?

- One unit was held for approximately three weeks due to a misunderstanding about the waiting list. With only eight units, the three weeks had a significant impact on vacancy.

(b) BEQ:

(1) Provide the utilization rate for BEQs for FY 1993.

Type of Quarters	Utilization Rate
Adequate	NA
Substandard	NA
Inadequate	NA

(2) As of 31 March 1994, have you experienced much of a change since FY 1993? If so, why? If occupancy is under 95% (or vacancy over 5%), is there a reason?

- Not Applicable

(3) Calculate the Average on Board (AOB) for geographic bachelors as follows:

$$\text{AOB} = \frac{\text{(\# Geographic Bachelors x average number of days in barracks)}}{365}$$

- Not Applicable

(4) Indicate in the following chart the percentage of geographic bachelors (GB) by category of reasons for family separation. Provide comments as necessary.

- Not Applicable

Reason for Separation from Family	Number of GB	Percent of GB	Comments
Family Commitments (children in school, financial, etc.)	NA	NA	
Spouse Employment (non-military)	NA	NA	
Other	NA	NA	
TOTAL	NA	100	

(5) How many geographic bachelors do not live on base?

- Not Applicable

(c) BOQ:

(1) Provide the utilization rate for BOQs for FY 1993.

Type of Quarters	Utilization Rate
Adequate	NA
Substandard	NA
Inadequate	NA

(2) As of 31 March 1994, have you experienced much of a change since FY 1993? If so, why? If occupancy is under 95% (or vacancy over 5%), is there a reason?

- Not Applicable

(3) Calculate the Average on Board (AOB) for geographic bachelors as follows:

$$\text{AOB} = \frac{\text{(\# Geographic Bachelors x average number of days in barracks)}}{365}$$

- Not Applicable

(4) Indicate in the following chart the percentage of geographic bachelors (GB) by category of reasons for family separation. Provide comments as necessary.

Reason for Separation from Family	Number of GB	Percent of GB	Comments
Family Commitments (children in school, financial, etc.)	NA	NA	
Spouse Employment (non-military)	NA	NA	
Other	NA	NA	
TOTAL	NA	100	

(5) How many geographic bachelors do not live on base?

- Not Applicable

(d) BOQ/BEQ Housing and Messing.

(1) Provide data on the BOQs and BEQs assigned to your current plant account. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
NA	NA	NA	NA	NA	NA	NA	NA	NA

(2) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

- Not Applicable, currently there are no substandard quarters.

(3) Provide data on the BOQs and BEQs projected to be assigned to your plant account in FY 1997. The desired unit of measure for this capacity is people housed. Use CCN to differentiate between pay grades, i.e., E1-E4, E5-E6, E7-E9, CWO-O2, O3 and above.

- Not Applicable

Facility Type, Bldg. # & CCN	Total No. of Beds	Total No. of Rooms	Adequate		Substandard		Inadequate	
			Beds	Sq Ft	Beds	Sq Ft	Beds	Sq Ft
NA	NA	NA	NA	NA	NA	NA	NA	NA

(4) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

- This question does not apply, currently there are no substandard quarters.

(5) Provide data on the messing facilities assigned to your current plant account.

Facility Type, CCN and Bldg. #	Total Sq. Ft.	Adequate		Substandard		Inadequate		Avg # Noon Meals Served
		Seats	Sq Ft	Seats	Sq Ft	Seats	Sq Ft	
NA	NA	NA	NA	NA	NA	NA	NA	NA

(6) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

- This question does not apply, currently there are no substandard quarters.

(7) Provide data on the messing facilities projected to be assigned to your plant account in FY 1997.

Facility Type, CCN and Bldg. #	Total Sq. Ft.	Adequate		Substandard		Inadequate		Avg # Noon Meals Served
		Seats	Sq Ft	Seats	Sq Ft	Seats	Sq Ft	
NA	NA	NA	NA	NA	NA	NA	NA	NA

(8) In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified provide the following information:

a. FACILITY TYPE/CODE:
b. WHAT MAKES IT INADEQUATE?
c. WHAT USE IS BEING MADE OF THE FACILITY?
d. WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
e. WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
f. CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
g. HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

- This question does not apply, currently there are no substandard quarters.

13. **MWR Facilities**. For on-base MWR facilities[10] available, complete the following table for each separate location. For off-base government owned or leased recreation facilities indicate distance from base. If there are any facilities not listed, include them at the bottom of the table.

LOCATION **NSWC, Louisville** **DISTANCE** **10 mile radius**

Facility	Unit of Measure	Total	Profitable (Y,N,N/A)
Auto Hobby	Indoor Bays	*	
	Outdoor Bays	*	
Arts/Crafts	SF	*	
Wood Hobby	SF	*	
Bowling	Lanes	*	
Enlisted Club	SF	0	
Officer's Club	SF	0	
Library	SF	*	
Library	Books	*	
Theater	Seats	*	
ITT - KY Kingdom Day	SF	*	
Museum/Memorial	SF	*	
Pool (indoor)	Lanes	*	
Pool (outdoor) 1250 SF, not a lap pool	Lanes	1	N/A
Beach	LF	0	
Swimming Ponds	Each	0	
Tennis CT	Each	*	

* MWR facilities are readily available in the Louisville Metropolitan Area.

[10]Spaces designed for a particular use. A single building might contain several facilities, each of which should be listed separately.

Facility	Unit of Measure	Total	Profitable (Y,N,N/A)
Volleyball CT (outdoor)	Each	2	No
Basketball CT (outdoor)	Each	1	No
Racquetball CT	Each	*	
Golf Course	Holes	*	
Driving Range	Tee Boxes	*	
Gymnasium	SF	*	
Fitness Center	SF	*	
Marina	Berths	*	
Stables	Stalls	*	
Softball Fld	Each	1	No
Football Fld	Each	*	
Soccer Fld	Each	*	
Youth Center	SF	*	
Concession Stand	Each	1	Y

* MWR facilities are readily available in the Louisville Metropolitan Area.

(a) Is your library part of a regional interlibrary loan program?

- Not Applicable

14. **Base Family Support Facilities and Programs.**

a. Complete the following table on the availability of child care in a child care center on your base.

- Numerous child care facilities are located in the area. The station maintains a list of 25 of these facilities in the immediate area. A survey of employees indicated existing facilities were more than adequate.

Age Category	Capacity (Children)	SF			Number on Wait List	Average Wait (Days)
		Adequate	Substandard	Inadequate		
0-6 Mos	NA	NA	NA	NA	NA	NA
6-12 Mos	NA	NA	NA	NA	NA	NA
12-24 Mos	NA	NA	NA	NA	NA	NA
24-36 Mos	NA	NA	NA	NA	NA	NA
3-5 Yrs	NA	NA	NA	NA	NA	NA

b. In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means." For all the categories above where inadequate facilities are identified provide the following information:

Facility type/code:
What makes it inadequate?
What use is being made of the facility?
What is the cost to upgrade the facility to substandard?
What other use could be made of the facility and at what cost?
Current improvement plans and programmed funding:
Has this facility condition resulted in C3 or C4 designation on your BASEREP?

- Not applicable

c. If you have a waiting list, describe what programs or facilities other than those sponsored by your command are available to accommodate those on the list.

- Not applicable

d. How many "certified home care providers" are registered at your base?

- None

e. Are there other military child care facilities within 30 minutes of the base? State owner and capacity (i.e., 60 children, 0-5 yrs).

- No, the closest military child care facility is at Fort Knox, about 45 minutes from NSWC, Louisville

f. Complete the following table for services available on your base. If you have any services not listed, include them at the bottom.

Service	Unit of Measure	Qty
Exchange	SF	*
Gas Station	SF	*
Auto Repair	SF	*
Auto Parts Store	SF	*
Commissary	SF	*
Mini-Mart	SF	*
Package Store	SF	*
Fast Food Restaurants	Each	*
Bank/Credit Union	Each	1
Family Service Center	SF	*
Laundromat	SF	*
Dry Cleaners	Each	*
ARC	PN	*
Chapel	PN	*
FSC Classrm/Auditorium	PN	*

* Services are readily available in the Louisville Metropolitan Area.

15. **Proximity of Closest Major Metropolitan Areas** (provide at least three):

City	Distance (Miles)
Louisville	0
Cincinnati	92
Indianapolis	118

16. **Standard Rate VHA Data for Cost of Living:**

Paygrade	With Dependents	Without Dependents
E1	0	0
E2	0	0
E3	0	0
E4	0	0
E5	2.26	1.58
E6	5.29	3.60
E7	13.55	9.41
E8	30.83	23.31
E9	24.41	10.53
W1	57.87	43.95
W2	22.00	17.26
W3	35.90	29.18
W4	30.68	27.20
O1E	11.73	8.70
O2E	0	0
O3E	0	0
O1	0	0
O2	0	0
O3	9.27	7.80
O4	12.00	10.43
O5	1.85	1.53
O6	0	0
O7	0	0

17. **Off-base Housing Rental and Purchase**

(a) Fill in the following table for average rental costs in the area for the period 1 April 1993 through 31 March 1994.

Type Rental	Average Monthly Rent		Average Monthly Utilities Cost*
	Annual High	Annual Low	
Efficiency	$375	$375	93
Apartment (1-2 Bedroom)	$450	$450	93
Apartment (3+ Bedroom)	$525	$525	93
Single Family Home (3 Bedroom)	$525	$525	93
Single Family Home (4+ Bedroom)	$600	$600	93
Town House (2 Bedroom)	$450	$450	93
Town House (3+ Bedroom)	$525	$525	93
Condominium (2 Bedroom)	$450	$450	93
Condominium (3+ Bedroom)	$525	$525	93

*Average monthly cost as provided by local utility company.

(b) What was the rental occupancy rate in the community as of 31 March 1994?

Type Rental	Percent Occupancy Rate*
Efficiency	92-93%
Apartment (1-2 Bedroom)	92-93%
Apartment (3+ Bedroom)	92-93%
Single Family Home (3 Bedroom)	92-93%
Single Family Home (4+ Bedroom)	92-93%
Town House (2 Bedroom)	92-93%
Town House (3+ Bedroom)	92-93%
Condominium (2 Bedroom)	92-93%
Condominium (3+ Bedroom)	92-93%

*As provided by the Louisville Board of Realtors.

(c) What are the median costs for homes in the area?

Type of Home	Median Cost*
Single Family Home (3 Bedroom)	94,620
Single Family Home (4+ Bedroom)	94,620
Town House (2 Bedroom)	61,780
Town House (3+ Bedroom)	61,780
Condominium (2 Bedroom)	61,780
Condominium (3+ Bedroom)	61,780

*As provided by the Louisville Board of Realtors

(d) For calendar year 1993, from the local MLS listings provide the number of 2, 3, and 4 bedroom homes available for purchase. Use only homes for which monthly payments would be within 90 to 110 percent of the E5 BAQ and VHA for your area.

Month	Number of Bedrooms*		
	2	3	4+
January	8	27	7
February	9	27	8
March	24	63	8
April	25	64	9
May	26	62	6
June	27	63	7
July	31	56	11
August	31	56	11
September	28	66	8
October	28	66	8
November	25	42	8
December	25	41	9
Total	287 **	633 **	100 **

* Figures are for the number of applicable homes sold in the given price range during each time period.

** These figures represent the total number of 2, 3, and 4 bedroom homes available for sale without restriction on price range during the requested time period.

Total Available for Sale	2	3	4+
	2009	6940	3850

(e) Describe the principle housing cost drivers in your local area.

- Principal housing cost drivers in the local area include, but are not limited to land value, construction costs, mortgage rates, property taxes, availability of homes, location, and compatibility of adjacent land uses.

18. **For the top five sea intensive ratings in the principle warfare community your base supports, provide the following:**

Rating	Number Sea Billets in the Local Area	Number of Shore billets in the Local Area
FCC (E-7)	None	4
FC1 (E-6)	None	3
FCCS (E-8)	None	2
FC2 (E-5)	None	1

19. **Complete the following table for the average one-way commute for the five largest concentrations of military and civilian personnel living off-base.**

Location	% Employees	Distance (mi)	Time(min)
Jefferson County, KY	68.20	12	20
Clark County, IN	7.13	15	30
Bullitt County, KY	6.21	20	30
Floyd County, IN	5.88	16	30
Hardin County, KY	2.85	30	40

20. **Complete the tables below to indicate the civilian educational opportunities available to service members stationed at the installation (to include any outlying sites) and their dependents:**

(a) List the local educational institutions which offer programs available to dependent children. Indicate the school type (e.g. DODDS, private, public, parochial, etc.), grade level (e.g. pre-school, primary, secondary, etc.), what students with special needs the institution is equipped to handle, cost of enrollment, and for high schools only, the average SAT score of the class that graduated in 1993, and the number of students in that class who enrolled in college in the fall of 1994.

Institution	Type	Grade Level(s)	Special Education Available	Annual Enrollment Cost per Student	1993 Avg SAT/ ACT Score	% HS Grad to Higher Educ	Source of Info
Jefferson County Public Schools	Public	K-12	Extensive	Free	963 / 19.6	68.3	*
Clark County, IN	Public	K-12	Extensive	Free	N/A	N/A	
Bullitt County, KY	Public	K-12	Extensive	Free	N/A	N/A	
Floyd County, IN	Public	K-12	Extensive	Free	N/A	N/A	
Hardin County, KY	Public	K-12	Extensive	Free	N/A	N/A	
Archdiocese of Louisville Catholic Schools	Parochial	K-12	some	Up to $4000	N/A	N/A	**

* FYI - A publication of the Jefferson County Public School System, 1993

(b) List the educational institutions within 30 miles which offer programs off-base available to service members and their adult dependents. Indicate the extent of their programs by placing a "Yes" or "No" in all boxes as applies.

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
University of Louisville	Day Y	No	No	Yes	Yes	Yes
	Night Y	No	No	Yes	Yes	Yes
Jefferson Community College Downtown	Day Y	No	Yes	Yes	Yes	No
	Night Y	No	No	Yes	Yes	No
Jefferson Community College Southwest	Day Y	No	Yes	Yes	Yes	No
	Night Y	No	No	Yes	Yes	No
Jefferson State Vocational School	Day Y	No	Yes	Yes	No	No
	Night Y	No	Yes	Yes	No	No
Louisville Technical Institute	Day Y	No	Yes	Yes	Yes	No
	Night Y	No	Yes	Yes	Yes	No
Bellarmine College	Day Y	No	No	Yes	Yes	Yes
	Night Y	No	No	Yes	Yes	Yes
Indiana University Southeast	Day Y	No	No	Yes	Yes	Yes
	Night Y	No	No	Yes	Yes	Yes
Sullivan College	Day Y	No	Yes	No	No	No
	Night Y	No	Yes	No	No	No
Spalding College	Day Y	No	No	Yes	Yes	Yes
	Night Y	No	No	Yes	Yes	Yes

(c) List the educational institutions which offer programs on-base available to service members and their adult dependents. Indicate the extent of their programs by placing a "Yes" or "No" in all boxes as applies.

- Not applicable, there are no on-base educational opportunities currently available.

Institution	Type Classes	Program Type(s)				
		Adult High School	Vocational/ Technical	Undergraduate		Graduate
				Courses only	Degree Program	
None Available	Day					
	Night					
	Corres-pondence					
	Day					
	Night					
	Corres-pondence					
	Day					
	Night					
	Corres-pondence					
	Day					
	Night					
	Corres-pondence					

21. Spousal Employment Opportunities.

Provide the following data on spousal employment opportunities.

Skill Level	Number of Military Spouses Serviced by Family Service Center Spouse Employment Assistance			Local Community Unemployment Rate
	1991	1992	1993	
Professional	0	0	0	NOT AVAILABLE
Manufacturing	0	0	0	NOT AVAILABLE
Clerical	0	0	0	NOT AVAILABLE
Service	0	0	0	NOT AVAILABLE
Other	0	0	0	NOT AVAILABLE

This site does not have a service center for spousal employment assistance.

22. Medical/Dental.

a. Do your active duty personnel have any difficulty with access to medical or dental care, in either the military or civilian health care system? Develop the why of your response.

- Active duty have access to medical care on Station. There is a dental facility available at Fort Knox, at the nearby University of Louisville Dental school, as well as numerous local dentist.

b. Do your military dependents have any difficulty with access to medical or dental care, in either the military or civilian health care system? Develop the why of your response.

- For emergencies, care is available through local hospitals (Humana) via agreement between Fort Knox and Humana.

R

NSWC, LOUISVILLE

RESPONSE TO CLARIFICATION QUESTION for Data Call #5, Question #23

Crime Rates for the city of Louisville, KY as per the following guidance:

- rate per 100,000 population
- rates obtained from city of appropriate law enforcement office (Louisville Division of Police and Jefferson County Police Department)

****

Violent Crime Rate	281 (per 100,000)
Property Crime Rate	1924 (per 100,000)
Drug Crime Rate	491 (per 100,000)

* rates are for the calendar year 1993
* Jefferson County and City of Louisville population is approximately: 800,000
* crime rates include Juvenile & Adult figures
* Violent & Property crime rates are based on "reports" filed with each of the stated law enforcement agencies
* Drug crime rate is based on "arrests" made by each of the stated law enforcement agencies

Sources:

Lt. Barbara Warman, Louisville Division of Police
Bridget Lampton, Jefferson County Police Department

23 Crime Rate. Complete the table below to indicate the crime rate for your air station for the last three fiscal years. The source for case category definitions to be used in responding to this question are found in NCIS - Manual dated 23 February 1989, at Appendix A, entitled "Case Category Definitions." Note: the crimes reported in this table should include 1) all reported criminal activity which occurred on base regardless of whether the subject or the victim of that activity was assigned to or worked at the base; and 2) all reported criminal activity off base.

- Only information regarding the crime rate on Station is available. This information was not available for the local metropolitan area.

Crime Definitions	FY 1991	FY 1992	FY 1993
1. Arson (6A)	0	1	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	1	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
2. Blackmarket (6C)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
3. Counterfeiting (6G)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
4. Postal (6L)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993

5. Customs (6M)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
6. Burglary (6N)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
7. Larceny - Ordnance (6R)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
8. Larceny - Government (6S)	1	1	1
Base Personnel - military	0	0	0
Base Personnel - civilian	1	1	1
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
9. Larceny - Personal (6T)	1	1	0
Base Personnel - military	0	0	0
Base Personnel - civilian	1	1	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
10. Wrongful Destruction (6U)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
11. Larceny - Vehicle (6V)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
12. Bomb Threat (7B)	0	1	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	1	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
13. Extortion (7E)	1	0	1
Base Personnel - military	0	0	0
Base Personnel - civilian	1	0	1
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
14. Assault (7G)	0	0	1
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	1
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
15. Death (7H)	0	1	3
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	1	3
16. Kidnapping (7K)	1	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	1	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
18. Narcotics (7N)	3	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	3	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
19. Perjury (7P)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
20. Robbery (7R)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
21. Traffic Accident (7T)	14	11	14
Base Personnel - military	0	0	0
Base Personnel - civilian	14	11	14
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0

Crime Definitions	FY 1991	FY 1992	FY 1993
22. Sex Abuse - Child (8B)	3	4	4
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	3	4	0
23. Indecent Assault (8D)	0	0	1
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	1
24. Rape (8F)	0	0	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	0	0
25. Sodomy (8G)	0	1	0
Base Personnel - military	0	0	0
Base Personnel - civilian	0	0	0
Off Base Personnel - military	0	0	0
Off Base Personnel - civilian	0	1	0

TAB A

TECHNICAL OPERATIONS

FUNCTIONAL SUPPORT AREA - LIFE CYCLE WORK AREA FORM

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.1
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

5.3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 634

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 1

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.1
Life Cycle Work Area	15

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

3.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 367

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.2
Life Cycle Work Area	9

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

1.6 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 229

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 2

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.2
Life Cycle Work Area	12

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __34__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __0__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.3
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

2.3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 273

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.3
Life Cycle Work Area	9

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.3 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 28

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 28

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.5
Life Cycle Work Area	4

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

4.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY 1993 for this functional support area - life cycle work area.

$(K) 423

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) -6

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.5
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 13

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.5
Life Cycle Work Area	9

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

-0.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) -7

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.5
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

4.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 325

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 84

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 23

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	1.5
Life Cycle Work Area	15

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __76__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __0__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	3

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

11.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 1,067

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 782

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE ORDSTA
Functional Support Area	2.1
Life Cycle Work Area	4

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

12.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 1,199

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 440

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

157.6 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 12,667

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 2,056

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	8

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

10.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 731

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	9

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

86.0 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 14,760

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 2,001

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	10

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

116.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 12,568

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 659

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	11

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

100.4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 9,196

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	12

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

300.7 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 43,704

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 4

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	13

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

72.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 6,464

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

61.4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 4,047

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 24

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	15

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

166.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 15,277

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 751

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	16

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

1.5 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 116

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 35

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.1
Life Cycle Work Area	17

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

3.0 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 270

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 178

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.2
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

1.7 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 176

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 12

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.3
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 1,446

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 3

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.5
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

3.0 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 320

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 2

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

82.4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 3,591

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 33

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	8

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 62

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	9

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 75

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	10

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

3.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 252

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	12

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

34.4 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 3,569

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

1.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.8
Life Cycle Work Area	15

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

58.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 7,196

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 14

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.9
Life Cycle Work Area	4

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __317__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __0__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	2.9
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.6 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 32

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	3.3
Life Cycle Work Area	4

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __0__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) ___0___

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) ___0___

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	3.3
Life Cycle Work Area	8

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 9

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	3.3
Life Cycle Work Area	10

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __0__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __346__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	3.3
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

29.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 356

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 231

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 519

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	5.1
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

35.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 2,878

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 51

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	5.3
Life Cycle Work Area	4

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

14.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 1,199

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 405

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	5.3
Life Cycle Work Area	10

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

6.7 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 473

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 41

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	5.3
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

5.8 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 1,089

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 435

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 47

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	8.2
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

-0.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 0

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	9.1
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 71

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 100

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.3
Life Cycle Work Area	11

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __23__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __6__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __-1__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.3
Life Cycle Work Area	14

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

14.9 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 1,302

b. **Out-of-House Expenditures**. Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 98

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 38

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.3
Life Cycle Work Area	NONE

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.1 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 15

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 1

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	3

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __109__

b. **Out-of-House Expenditures**. Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __1__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	4

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __12__

b. **Out-of-House Expenditures**. Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __0__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	7

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __1__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __0__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	9

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

0.2 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 521

b. **Out-of-House Expenditures**. Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 85

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	10

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __1__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __0__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	12

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

__0__ WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) __310__

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) __16__

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) __0__

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

TECHNICAL FUNCTIONS
FUNCTIONAL SUPPORT AREA/LIFE CYCLE WORK AREA FORM

Technical Center Site	NSWC, LOUISVILLE
Functional Support Area	10.9
Life Cycle Work Area	15

Note: An example of a functional support area - life cycle work area is "1. Platform, 1.1 Undersea, - 10. Program Support".

1. **In-House Work Years.** Provide the number of in-house government employee (civilian and military) work years for FY1993 that were performed in this functional support area - life cycle work area. Workyears are to be consistent with those used in the preparation of inputs to the President's budget.

46.0 WYs

2. **Expenditures.**

a. **In-House Expenditures.** Provide the total in-house cost in FY1993 for this functional support area - life cycle work area.

$(K) 2,549

b. **Out-of-House Expenditures.** Provide the total funds expended during FY1993 for this functional support area - life cycle work area. **Do not** include direct cite funding.

$(K) 0

c. **Direct Cites.** Provide total direct cite funds expended on contract during FY1993 for this functional support area - life cycle work area.

$(K) 0

Note:

In-House Expenditures - Is comprised of the total obligation authority for direct labor, direct material, direct travel, direct equipment, direct computer support, other direct support services and all overhead.

Out-of-House Expenditures - Is comprised of total obligational authority for direct work (customer funded, mission oriented) performed or to be performed by other than the organizational entity. Out-of-house performers may include other departmental or DoD organizational entities, industrial firms, educational institutions, not-for-profit institutions and private individuals.

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NSWC, LOUISVILLE
Facility/Equipment Nomenclature or Title	NAVAL ENGINEERING DRAWING MANAGEMENT

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

1.0 MISSION

The Naval Surface Warfare Center, Crane Division, ORDSTA Louisville (formerly Naval Ordnance Station Louisville) was designated as the repository for ordnance engineering drawings and associated data in 1953. Louisville also has been designated as a Naval Engineering Drawing Support Activities (NEDSAs) by MIL-HDBK-331 and NAVSEAINST 9085.2. NEDSA Louisville serves as catastrophic back-up file for Port Hueneme; and as such, maintains a master aperture card of all Port Hueneme drawings. Crane Division also is the repository for all Strategic Systems Programs (SSP) engineering drawing data and technical manuals. **The data stored in this repository affords the Navy the capability to evaluate, acquire, operate, and maintain the systems, equipment, and components effectively.**

The Crane Division also serves as technical support office for the DoD Joint Engineering Data Management Information and Control System (JEDMICS) PMO; including such tasks as, evaluation of Engineering Change Proposals (ECPs), problem analysis and validation, system implementation support and PMO technical advisor to the JEDMICS Configuration Control Board (CCB). All system upgrades and technical refreshes used on the joint service system are installed and tested at Louisville prior to Department of Defense (DoD) deployment. **Serving in this capacity, the Crane Division sets policies, standards and priorities for DoD Continuous Acquisition and Life-Cycle Support (CALS) initiatives.**

The Navy Engineering Drawing Asset Locator System (NEDALS) resides at the Louisville site. The system has been designated as the Navy's automated central drawing index by OP-04B and is under the oversight of the DoD CALS Executive. NEDALS provides a

complete inventory of all Navy drawings along with the data's location and type of media available. It is also the designated ordering point for NAVSEA engineering drawings. NEDALS users have identified a cost avoidance of 2.5 labor hours on every NEDALS inquiry versus the manual method of performing drawing research. There were over 50,000 orders processed through NEDALS in FY-93. **This represents a single year savings of $5.4M.**

2.0 FUTURE MISSION

The NEDSA's role is expanding. The updated NAVSEAINST 9085.2A identifies Louisville as the repository for all Combat System, Weapons System and Ordnance System Engineering Drawings. One of the many uses of the data is to develop accurate reprocurement technical data packages. This capability will become increasingly more important as the DoD reliance on private sector sources increases. Additionally, both JEDMICS and NEDALS roles will increase due to the decreasing number of drawing locations as the Navy down-sizes.

The only system in the Navy that currently tracks engineering data is NEDALS. This system will be invaluable in locating data that is normally lost in transferring the data between In-Service Engineering Agents (ISEAs) or Planning Yards (PYs). The current NEDALS database has all the functionality built into its system design to meet the locator requirements of Public Law 98-525. An expenditure of several million dollars will be required to build similar functionality into the Military Engineering Drawing Asset Locator System (MEDALS). Therefore, with the existing hardware, software, and communications capabilities NEDALS can easily become the central drawing locator system for DoD.

JEDMICS is the DoD standard engineering data digital imaging system. The Crane Division current JEDMICS configuration and technical expertise in this area; makes it ideally suited for on-line and off-line storage of out-of-service engineering data that are used for FMS cases or; if necessary, for ship's recommissioning. The NSWC, Crane Division is currently transferring engineering data via high speed telecommunications. The division's experience with JEDMICS, NEDALS and its expertise in maintaining and enhancing electronic transfer of digital data, provides the DoD with the ideal location for establishing the Tri-Service central engineering data repository.

3.0 TECHNICAL FUNCTIONS

The repository contains more than seven (7) million engineering drawing images and 500,000 master drawing. The repository drawing management system also tracks the master

location of an additional two (2) million drawings. The repository management system tracks drawing distribution requests, performs billings and interfaces with the division's accounting systems. This function is totally automated and as such is the only fully operational systems of its kind in the Navy.

The data housed in the repository is reproduced and distributed by both automatic distribution and demand requisition methods. **During FY-93 reproduction services were provided to over 200 government and industrial organizations on a "FEE-FOR-SERVICES" basis.** Many requests for data are received from fleet and maintenance organizations, who utilize the data for system/equipment maintenance and operation. The data is also used by Inventory Control Points (ICPs) for the acquisition of spares and repair parts. The repository's normal turn-around time to develop a Bid Set is three (3) days versus the standard twenty-eight (28) day period.

The repository is in the process of loading its active drawings into the local JEDMICS suite. There are currently more than 600,000 drawing images on the system available to work-stations within the Crane Division. The Crane Division suite has on-line storage capability of up to six (6) million images. With a T-1 communications capacity, it takes less than six (6) seconds to digitally transfer data between the Crane and Louisville sites. The data can also be transferred to ICPs with CALS compatible systems; either electronically or via other electronic medias.

JEDMICS, which is state-of-the-art and on the leading edge of digital imaging technology, is the DoD standard for digital imaging system of engineering drawings. Both the Army and Air Force are in the process of converting their existing imaging systems to JEDMICS. This system is currently in use at Navy, Marine Corps and Defense Logistics Agency locations. It is designed to be the principal method of transferring standardized (CALS) compliant digital engineering drawing data between the government and its contractors. The program authorization is for the systems at forty-seven (47) sites and a ceiling exceeding two hundred (200) million dollars.

NEDALS currently holds identification and location data for more than twenty-two (22) million Navy engineering drawings. When fully loaded, the system will identify the location and format of all Navy drawings. In addition, it is being considered as the central automated index for JEDMICS. Independent studies have verified that NEDALS reduces the time to locate engineering data by more that 2.5 hours per drawing; this has allowed user

activities to allocate 135,000 labor hours per year to other tasks. Also, due to the electronic transfer of drawing orders between NEDALS and other Navy repositories, more than five (5) labor years have been saved while decreasing the drawing order response time. This Technical Capability (TC) is required to support other Naval Surface Warfare Center TCs such as: Naval Gun Warfare, Small Arms, Mechanical Manufacturing as well as the other many areas in other Warfare Centers.

4.0 BUSINESS BASE

Projects	FY-93 Funding
NEDSA Repository	$1,000,000
SSP Repository	$ 600,000
JEDMICS Support	$ 835,000
NEDALS Operations	$ 500,000

Technical Expertise

Computer Specialists - ADP Systems Operation and Security Relational Database Management
C & COBOL Programming
Digital Imaging Technology
Data Communications Infrastructure
System Design and Development
Distributed System Design, Installation and Testing
System Implementation and Integration
Software and System Configuration Management
System Documentation and User Training
Subsystem Optimization
CD-ROM generation and distribution

Data Management Specialist -

Technical Data Package (TDP) Development
Technical Data Development and QA
Data Conversion to Digital Format
Digital Data Storage and Retrieval
Data Reproduction
Data Distribution
NAVSEA Drawing Number Assignment

The aforementioned skills span system concept (NEDALS, Repository and JEDMICS) through solicitation, evaluation, selection, contract award (JEDMICS) and life-cycle support issues. The resident knowledge base represents over 140 years of expertise for Relational Data Base Systems, 40 year of NEDALS design and operation, and 70 years of JEDMICS concept to operational support. These skills have been honed not only by intensive training but also through years of hands on practical knowledge. The Crane Division is recognized through out Navy, Army, Air Force, Marine Corps, Defense Logistics Agency and private sector for its expertise in data base design, implementation and life cycle support for Repository automation, NEDALS and JEDMICS.

Additionally, the Crane Division has integrated these "Islands of information" into the production process. Digital location, retrieval and transmission have enabled the division to produce components in a totally paperless environment. This unique capability within DoD utilizes the functionality of the CALS Flexible Computer Integrated Manufacturing (FCIM), Rapid Acquisition of Manufactured Parts (RAMP), Electronic Data Interchange (EDI) and CAD systems/programs. The Division is the only Navy activity with the capability of CD-ROM generation and distribution of engineering Drawings. This capability crosses the traditional boundaries of digital data transfer technology as evidenced by the Mark 45 Mod II gun system program distribution of a complete technical data package to the Royal Australian Navy.

This TC has allowed the division to share its data and technology with industry. For instance, division developed software packages and hardware specifications have provided private sector firms, such as; Westinghouse and Accurate Inc. the ability to accept and view images.

These unique Capabilities greatly influence fleet readiness and demonstrated by our ability to reconstruct weapons systems (USS New Jersey and USS Stark) respond to surge requirements (battleship activations) and national crisis demanding rapid response (Desert Storm).

5.0 FACILITIES

The final Crane Division JEDMICS configuration will include two Mini-Computers connected by a T-1 communications line, two (2) terabytes of optical storage and forty (40) gigabytes of magnetic storage. The system currently has sixty five (65) display workstations, with an approximate 100 additional workstations to be added during FY-94/95. The system also includes the hardware and software to output engineering

drawings on CALS compliant magnetic tape, CD-WORM, CD-ROM, hardcopy and aperture card formats. The system at the Louisville site utilizes an Ethernet LAN, while the Crane site will employ a Fiber-Optic Network.

Along with fulfilling the Crane Division's and NEDSA's digital imaging needs, the JEDMICS site serves as a Laboratory and Beta test site for system modifications and technology refreshments. The Crane Division is also the Navy test facility for the Computer-Assisted Data Acceptance (CADA) hardware and software suite. When operational, CADA will provide a method for minimizing the QA effort involved in converting engineering drawings to a digital format.

NEDALS is composed of two clustered VAX 6000 mini-computers, with 25 gigabytes of magnetic storage, an "ORACLE" Relational Database Management System (RDBMS) and Navy developed application programs. Users access the system utilizing Personal Computers (PCs) serving as local terminals. NEDALS provides a bank of twelve (12) 14,400 Baud modems and Defense Data Network node for user access.

The Repository Data Management System utilizes a VAX 11/780 to track all data held or managed at the NEDSA Louisville. Other usages of this system include: Top-Down Breakdown Database, Automatic Distribution System, Production Statistics and Cost Accounting System.

The Louisville site facility of the Crane Division consists of a 26,086 sq. ft. Class "A" Storage Vault. Currently, fifty percent of the vault area is dedicated to specific repository operations. There is seventy-five (75) percent of the area which is allocated for particular operations and also consists of hard copy master drawing storage cabinets, aperture card storage cabinets and assorted racks containing numerous indexes and technical documents which reside from floor to ceiling.

6.0 LOSS IMPACT

Although the NEDSA supports all the programs and systems managed by the Crane Division, the Division programs make up approximately twenty-five (25) percent of NEDSA's operations. This portion of the operation could not be canceled or transferred to another site. The remaining seventy-five (75) could be managed by the appropriate ISEA or Design Agent (DA) without appreciable loss of data availability. However, access

to this data will be more expensive and/or take longer; since each activity will have a reduced volume reproduction to pay for the required services. This scenario makes a Central Automated Indexing System, such as NEDALS, even more critical.

When master drawings are no longer required they are sent to a Federal Records Center. In the process of shutting down the repository; all drawings held at the NEDSA must be relocated. This effort could require as many as thirty (30) labor years of effort. All the data would have to be inventoried, appropriate delivery locations established and physically transferred. All the master drawings must be prepared and sent to a Federal Records Center as specified in SECNAVINST 5212.5. This effort will take an additional five (5) labor years.

The Crane Division support of the JEDMICS PMO can be moved to some other location. Unless the people that currently support this effort are moved with the program, a significant learning curve will occur. The technical expertise required for Research, Development, Test and Evaluation is not readily available throughout DoD.

NEDALS is a unique system developed at the Crane Division for NAVSEA. It was expanded to include all Navy SYSCOMs. The expanded system also meets the OPNAV goal to have a Navy automated central drawing index by FY-96. The impact of losing NEDALS will be significant in three areas. First, the time spent by activities will increase by as much as 2.5 hours per drawing. Second, because of the electronic ordering interface, other Navy repositories will be required to increase staff to manually process drawing orders. Thirdly, many engineering not located at Navy repositories will be lost to ICPs, since the automated inventorying capability will no longer be tracking drawing locations.

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

Class "A" Storage Vault - The vault is a fixed structure, constructed of double reinforced concrete walls, ceiling and floor with vault style doors at both entrances. Currently the vault contains over seven million engineering drawings with security classifications ranging for unclassified to secret.

The vault also houses three major engineering technical data automation systems. Although, these systems are considered movable, there would be considerable loss of services during any period of transition.

- Joint Engineering Data Management Information and Control System (JEDMICS). This system provides for the acquisition, digitization and electronic transfer of the TDPs. The equipment could be dismantled and moved to a new location. However, it is connected via a communications network, allowing both Crane Division sites to utilize a single data source.

- Navy Engineering Drawing Asset Locator System (NEDALS). This system provides a automated central drawing locator system with more than 1200 users from over 71 government activities.

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

Replacement Costs:

Security Vault	$5,384,000
JEDMICS	$7,143,000*
NEDALS	$2,735,000*

* DOES NOT INCLUDE COST TO RECAPTURE DATA STORED IN AUTOMATED SYSTEMS.

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

The Class "A" Vault is 26,086 Sq. Ft.

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

Vault.
a). The vault has a security alarm system that is manned at Louisville's central security station.

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

The functions supported by this facility/equipment is funded on a "fee for services" basis. The activities and functions

supported by these services provide the main sources of funding.

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

Ventilation system capable of providing an adequate working environment, as defined by OSHA standards, for working in a confined area.

Air Conditioning. Environment to meet system temperature and humidity requirements for automated systems.

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

Vault
a). All other Navy or commercial Class "A" storage facilities of this magnitude are fully utilized. However, the need for this type of facility will decrease as the engineering data is automated.

b). Conversion and/or transfer of the engineering data stored in the vault will take a minimum of 30 labor-years.

Automated Systems.
a). The functions and data housed in the automated systems could be moved to another facility. During the transition period, redundant systems would be required to ensure that the services provide by these systems are not diminished.

b). There is a greater potential savings for moving smaller systems performing similar functions to the Louisville technical data center.

1. NEDALS is the only drawing locator system that meets all the functional requirements of Public Law 98-525. The other DoD system performing the same function is the Military Engineering Data Asset Locator System (MEDALS). It will take a considerable amount of the DoD resources to build the required functionality into MEDALS that now exist in NEDALS.

2. The JEDMICS at Louisville is currently providing digital imaging capability for the Crane site, more than 100 miles

away. This capability could be expanded to include all DoD sites. This expanded system could be implemented immediately between Louisville and the Navy Ships Parts Control Center (SPCC). An immediate savings could be realized. The cost to maintain a JEDMICS site is approximately ten times more than the increased the cost of communications. Additionally, most of the personnel necessary to maintain the second and subsequent systems could be eliminated.

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

The vault was constructed in 1941. NEDALS and JEDMICS were installed in 1989. Hardware was delivered by qualified movers and installed by respective OEM or prime contractor(s).

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

Functional Support Area:
10.9 Activity Mission and Function Support.

The Naval Engineering Documents Management capability supports all functional areas. It is difficult at best to list specific functionsl areas since the documents are distributed to any DoD activities requesting the data. Usage of the documents by a specific activity may be to support reprocurement, RTD&E, engineering, testing, maintenance, quality assurance and/or operation.

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

Vault: The repository supported by the vault has distributed approximately 850,000 engineering drawings per year for the last five years.

NEDALS: Since going on-line in April 1990, NEDALS has processed an average of 50,000 drawing orders per year. This represents a savings of 2.5 hours in research time per drawing over the previous manual locator methods.

JEDMICS: This system is still in the loading process. During this stage there is a decrease from the manual to the automated process. System utilization is approximately 70 percent of repository operation.

12. Provide the projected utilization data out to FY1997.

With the installation of JEDMICS, more and more drawing are being called up on workstations at engineers' desks or in work spaces. This increased on-line access will decrease the need for hardcopy or aperture card drawings. The term utilization will be redefined from a physical output of engineering data to the number of records viewed at a workstation and digital images transmitted through electronic communications.

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

Current manning level is 50 personnel; primarily in data management and computer specialties.

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

Anticipated decrease. When fully automated, the repository operation will decrease to approximately 35 personnel.

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

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NSWC, LOUISVILLE
Facility/Equipment Nomenclature or Title	LAUNCHER SYSTEMS OVERHAUL/TEST FACILITY

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

The Crane Division, Naval Surface Warfare Center (NSWC Louisville) is a unique asset to the Navy, serving as the Navy's depot level overhaul facility for systems, subsystems and components related to Missile Launchers. The major thrust of the Launcher Systems Overhaul/Test Facility Technical Capability (TC) is to process a system, subsystem or component through an intense overhaul effort to ensure operational readiness. The overhauled systems are returned to the Fleet in a better than new condition at a cost which is significantly less than the replacement cost of new systems. This is done through a unique mix of personnel, facilities and equipment which provides a synergism available no where else in the world.

The primary missions of the Launcher Overhaul/Test Facility are to provide a full range of manufacturing, overhaul, maintenance and repair capabilities to assist in the life cycle support of missile launching and missile fire control equipment; to maintain the Navy's core industrial capability to be able to perform as smart buyer; maintain rapid response capability for reconstitution of our Naval forces if mobilization is needed; and to assist in providing current and future fleet operational readiness
requirements.

The Launcher Systems Overhaul/Test Facility provides a full range of overhaul capabilities and certified Depot Overhaul Point (DOP) facilities, equipment and procedures for the MK 13 and MK 26 TARTAR Launchers, MK 5 TERRIER Launchers and MK 10 TERRIER Launcher Systems, Armored Box Launchers (ABL), MK 112 ASROC Launchers and MK 32 Surface Vessel Torpedo Tubes (SVTT) weapon systems and subsystems. Facilities, personnel and equipment capabilities also exist within the Launcher Systems Overhaul/Test Facility for the overhaul of MK 17 Turbine Pump Ejection System (TPES), MK 23 Target Acquisition System (TAS), MK 53 Combined

Antenna System (CAS) and MK 54 Separate Tracking Illumination Radar (STIR) systems and subsystems. In addition to the existing validated overhaul capabilities, efforts are underway which will establish and validate the Crane Division, NSWC Louisville as the NATO Seasparrow Missile Launcher DOP.

This Launcher Overhaul/Test Facility supports more than one product area element (APE) by supporting Engagement Systems (missile launcher), Theater Air Defense and Ships Self Defense. Future industrial support requirements for this Launcher Overhaul/Test Facility are assured do to the role that missile launching systems and associated missile fire control systems will play in supporting Littoral Warfare Strategies described in "From the Sea". In support of the missions for this Launcher Overhaul/Test Facility, validated facilities, equipment and procedures are maintained to support the following systems:

MK 44 Armored Box Launcher (ABL)
MK 23 Target Acquisition System (TAS) (validation in process)
MK 132 Nato Seasparrow Launcher (validation in process
MK 26 TARTAR subsystems
MK 13 TARTAR subsystems
MK 10 TERRIER Launcher
MK 112 ASROC Launcher
MK 32 Surface Vessel Torpedo Tube (SVTT)
MK 53 Combined Antenna System (CAS)
MK 54 Separate Tracking Illuminations Radar (STIR)
MK 17 Turbine Pump Ejection System (TPES)

Current mission also includes responsibilities for providing new manufactured MK 32 Surface Vessel Torpedo Tubes (SVTT) weapon systems and subsystems to Foreign Military Sales (FMS) countries (i.e., Thailand, Taiwan, Canada, Germany, New Zealand, Greece, Turkey, Spain, Netherlands).

The Launcher Systems Overhaul/Test Facility's future mission includes continuing the current mission and adding manufacturing/overhaul processes to support pier side overhaul efforts. Further, the development of selected manufacturing processes such as cable/harness manufacturing into a "WORLD CLASS" capability, is a major initiative of the Launcher Systems Overhaul/Test Facility. The Cable/Harness capability will manufacture cables and harnesses for other Crane Division TCs (i.e., Electronic Warfare, Micro Electronics Tech., EMT&R, and Small Arms, as well as for the Army, Marine Corp, Strategic Systems Projects Office (SSPO), Air Force and other DOD commands. Future mission defines joint operations with other Navy activities and with Tri-service work for the Army and the Air Force.

This Launcher Overhaul/Test Facility performs production engineering, test engineering, maintenance and project management

for technically sophisticated missile launching equipments. These support services provide expert input for all phases of industrial support during the life cycle of missile launching equipment. The technical expertise provided by this Launcher Overhaul/Test Facility ensures "smart buyer" capability for the overhaul, maintenance and repair of missile launching systems equipment. This technical and industrial capability also ensures organic capability for missile launching equipment not supportable by other sources. The synergism that results from closely coupling productions and test engineering disciplines with industrial trades disciplines, produces an organic environment that seeks to provide the best value for fleet users of missile launching equipment in terms of operational readiness of equipment, cost containment and schedule sensitivity.

This Launcher Overhaul/Test Facility is comprised of the knowledge and skills of specialized engineering and technical personnel integrated into a sophisticated industrial facility to assist in life cycle support of missile launching systems (MLS). The specialized knowledge and skills needed to perform this Launcher Overhaul/Test Facility can only be acquired through years of hands-on experience, formal education, and specialized training. These knowledge/skills and facilities provide a uniquely integrated approach for highly specialized Aegis, Ships Self Defense, Theater Air Defense, and Joint Cruise Missile launching and fire control equipment, such as:

* "Joint Cruise Missile Project" missile launchers
* "Theater Air Defense" NATO missile launchers
* "Ships Self Defense" Target acquisition equipment
* "Aegis" missile launching equipment
* "SVTT" Torpedo launching equipment

The technically sophisticated nature of missile launching systems requires a mix of professional and technical personnel with a broad mix of skills and knowledge in the fields of science, engineering, logistics, ordnance technicians and industrial specialists. The skills necessary to support this Launcher Overhaul/Test Facility have been developed through numerous years of experience and training and include the following:

* Engineering: Chemical, Metallurgical, Mechanical, Electrical and Electronic Engineers

* Production: Ordnance Equipment Mechanics (OEMs), Electrical Mechanics (EMs), Electrical Equipment Repairers (EERs), Electronic Integrated Systems Mechanics (EISMs), Optical Instrument Repairers (OIRs), Instrument Repairers (Irs), Machinists, Welders, Electroplaters, Painters and Fabricators

* Support: Industrial Specialists (M&O), Planners and Estimators, Production Controllers, Quality Assurance Specialists, Ordnance Systems Inspectors and Electronic Integrated Systems Inspectors

Production and support personnel have a mix of classroom and on-the-job training in many areas. Many of these individuals have been trained and have graduated from a formal four-year apprenticeship program and in many instances, have entered into formal training programs in specialized areas which have enhance their expertise and contribution to the Launcher Overhaul/Test Facility. Due to the complexity of the systems and equipment on which this group of personnel work, several years of experience are necessary in order to develop them into highly skilled journeymen within their specific function. These individuals are also very diverse and have the ability to work in multiple disciplines associated with Surface Missile Systems Launchers and associated equipment.

Declining defense budgets have and will continue to severely limit the availability and economic viability of other sources of industrial life cycle support for this Launcher Overhaul/Test Facility. Therefore, this facility must be retained for the Navy to be able to continue as a "smart buyer" of fleet industrial readiness support for launching systems. This Launcher Overhaul/Test Facility also provides the Navy with a rapid response capability to produce goods and services in crisis situations and to provide industrial capability in response to the inability or a lack of interest by the private sector to support launching systems.

The Launcher Overhaul/Test Facility can be divided into 6 major assets:

a.) <u>LAUNCHER OVERHAUL/TEST ASSETS:</u>

* New manufacture, overhaul, and test various missile launchers and Launcher systems subassemblies:

MK 10 Terrier equipment
MK 112 ASROC equipment
MK 44 ABL equipment
MK 34 SVTT equipment
MK 11 Tartar equipment
MK 13 Tartar equipment
MK 26 Tartar equipment

b.) <u>FIRE CONTROL/DIRECTOR ASSETS:</u>

* Overhaul and test MK 47 and MK 1A manual Fire Control Computers

* Overhaul and test MK 16 Stable Elements and Subassemblies
* Overhaul and test Gun Fire Control (GFC) Directors
* New manufacture and test of various circuit card assemblies and modular sub-assemblies of radar and electronic equipment
* Overhaul and test various optical equipment
* Overhaul and FAI of synchros for replacement in various gun and missile system

c.) RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* Overhaul and test MK 92 CAS & STIR Antennae
* Alignment of MK 92 CAS and STIR Antennae
* Mechanically Factory Acceptance Inspection (FAI) of MK 29 CAS and STIR antennae
* Overhaul and FAI of the Target Acquisition System (TAS) Antenna Pedestal Group and associated Equipment
* Overhaul and FAI various Gun Fire Control (GFC) Radar System.
* Full system testing and unit level testing for SPCC.

d.) MOTOR OVERHAUL/TEST ASSETS:

* Repair/Refurbish 0 - 600 HP motors, blowers, amplidynes, and generators

e.) CABLES MANUFACTURING/TEST ASSETS:

* Manufacture new cables and repair damage cables
* Cable and wiring harness Factory Acceptance Inspection (FAI)

f.) TURBINE PUMP EJECTION SYSTEM ASSETS:

* Overhaul & Repair of Turbine Pump Ejection System (TPES) pumps and gear boxes for Tripper Class submarine.

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

LAUNCHER OVERHAUL/TEST ASSETS:

* Equipment is moveable

FIRE CONTROL/DIRECTOR ASSETS:

* Equipment is moveable

* Clean Rooms are fixed
* Ranges are fixed

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* Equipment is moveable
* Clean Rooms are fixed
* Range is fixed

MOTOR OVERHAUL/TEST ASSETS:

* Equipment is moveable

CABLING MANUFACTURING/TEST ASSETS:

* Equipment is moveable
* Clean Room is fixed

TURBINE PUMP EJECTION SYSTEM ASSETS:

* Equipment is moveable

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

Assets used by the Launcher Overhaul/Test Facility include:

(a) Cable Manufacturing/Test assets
(b) Launcher Overhaul/Test assets
(c) Fire Control/Director Overhaul/Test assets
(d) Radar/Target Acquisition System Overhaul/Test assets
(e) Motor Overhaul/Test assets
(f) Turbine Pump Ejection System Overhaul/Test assets

Unique equipment and facilities include "all up" system test equipment and facilities for each major product line. Unique test facilities include: electric motor overhaul facility with dynamometers capable of load testing from 0 to 600 horsepower motors; synchro repair facility; humidity and temperature controlled optical repair facility; and environmentally controlled electronic modular repair facilities for circuit card assemblies (CCAs), repair of CCAs and modules, and overhaul and automated/manual testing of CCAs and wiring harnesses.

a.) Equipment:

LAUNCHER OVERHAUL/TESTS ASSETS:

* Tear Down Stands = $ 50,000
* Build Up Stands = $ 59,000
* Terrier Test Stands = $ 100,000
* ASROC Test Stand (2 each) = $ 77,000
* SVTT Test Stand = $ 10,000
* ABL Test Stands (3 each) = $ 150,000
* Hydraulic Winch Test Stand = $ 50,000
* Assorted Test Fixtures (9 each) = $ 75,000
* Assorted Handling Fixtures = $ 50,000
* Assorted alignment Fixtures = $ 75,000
* Hydraulic Power Test Bench = $ 55,000
* 3 each Hydraulic Power Units = $ 30,000
* 3 each High Air Pressure Pumps = $ 44,000
* 2500/3500 PSI Air Pressure Pump (4 each) = $ 100,000
* Mk 10 Dummy Directors (6 each) = $ 150,000
* Gould 220 Dual Chart Recorder (10 each) = $ 10,000
* Dud Jet Test Stand = $ 75,000
* Loader Power Drive Test Stand = $ 50,000
* MK 11 Tartar Launcher Test Stand = $ 200,000
* Misc. meters, gages, tools = $ 10,000
* 3 each ASROC Captain Control Panels = $ 90,000
* Test Stand Control Room = $ 35,000
* Mk 10 Terrier EP1, EP2, EP3 Panels = $ 100,000
* ASROC Terrier Missiles (2 each) = $ 35,000
* 1100 lb. ASROC Dummy Missile = $ 25,000
* 850 lb. ASROC Dummy Missile = $ 15,000
* AC-DC Converter Test Console = $ 25,000
* 50 ft. Torpedo Launching Test Ramp = $ 150,000
* Steam Heat Lamination Press = $ 50,000
* Roller Tables = $ 15,000
* Drilling Fixtures = $ 50,000
* Lapping Machine (24" dia.) = $ 5,000

* 75 Ton Straight Press (12" Stroke) = $ 15,000
* Horizontal Mill (13" X 64" Table) = $ 40,000
* 150 Ton Platen Press (300 deg.) = $ 75,000
* Engine Lathe = $ 30,000
* 100 HP Dynamometer = $ 30,000

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* Schlumberger 721S = $ 1,150,000
* HHB CATS Hardware Modeler = $ 175,000
* GENRAD 1790 = $ 275,000
* GENRAD 1796 = $ 650,000
* GENRAD 1797 = $ 50,000
* GENRAD 2225 = $ 110,000
* Interface Adapters = $ 181,000
* Computervision HCTVD = $ 130,000
* HP Analog Test Stations = $ 398,584
* Misc Equipment = $ 460,795
* ESD Work Benches & Chairs = $ 45,000
* Misc ESD Compliance Equipment = $ 33,000
* Equipment Racks = $ 16,156
* 2 Axis Scoresby Simulator = $ 100,000
* Mounting and Test Fixtures = $ 75,000
* MK 47 Fire Control Computer Test Beds (2 each) = $ 200,000
* Misc. meters, oscilloscopes, power supplies = $ 50,000
  and hand tools
* Mk 68 and MK 37 Director Overhaul = $ 1,167,000
  and Test Facility
* FACT PC = $ 1,200,000
* Collimators = $ 10,000
* Levels = $ 5,000
* Leveling Stands = $ 10,000
* Optics Test Fixtures = $ 10,000
* Gunner Quadrants = $ 10,000
* Transits = $ 30,000
* Misc. Optical Tooling = $ 30,000
* MK 102/MK 116 Test Console = $ 50,000
* Surface Table (4 Ft. X 8 Ft.) = $ 6,000
* Lens Bench = $ 75,000
* Optical Components Coating Machine = $ 120,000
* Kearkroft-Singer Synchro Tester = $ 438,670
* Various Synchro Adapters = $ 10,000
* Clearing Press = $ 500,000

RADAR/TARGET ACQUISITION SYSTEM OVERHAUL/TEST ASSETS:

* High Power Test Facility = $ 279,094
* Low Power Test Facility = $ 496,428
* Cooler Test Facility = $ 25,000
* Signal Processor Test Facility = $ 250,000
* Misc Equipment = $ 170,000
* Network Analyzer = $ 27,000
* 50 Ohm S-Parameter Test Set - 6 Ghz = $ 9,000
* Microwave Counter = $ 12,500
* Sweep Oscillator = $ 6,500
* Pulse Generators (2 each) = $ 13,000
* Microwave/Servo EMM Control Test Panel = $1,500,000
* MK 92 CAS/STIR Test Stand = $ 8,000
* 440 VAC 400 Hz Generator (2 each) = $ 10,000
* Alignment Stands = $ 21,000
* Surface Table (4 Ft x 8 Ft) = $ 8,000

MOTOR OVERHAUL/TEST ASSETS:

* Small Motor Dynamometer (0 - 120 Oz-In) = $ 6,000
* Small Motor Dynamometer (0 - 100 Lb-In) = $ 6,000
* Small Motor Dynamometer (0 - 200 Lb-In) = $ 6,000
* 15 HP Dynamometer = $ 15,000
* 50 HP Dynamometer = $ 26,000
* 600 HP Dynamometer = $ 91,000
* 2 each Magnetic Charger = $ 18,000
* Drying Oven (200 Deg - C) = $ 2,000
* DC Power Supply (0 - 375 VDC, 350 AMPS) = $ 10,000
* Hobart AC/DC Generator (300 VDC, 100 AMP) = $ 6,000
* DC Power Supply (50 AMPS) = $ 5,000
* DC Power Supply (17 AMPS) = $ 10,000
* Armature Balancer = $ 5,000
* Tachometer Tester = $ 2,000
* 1 HP Motor Test Station = $ 5,000
* Misc. Meters, Hand Tools = $ 40,000
* Drill Press = $ 400
* Paint Booth (8 FT X 6 FT) = $ 5,000
* Misc Motor Adapters = $ 10,000

CABLE MANUFACTURING/TEST ASSETS:

* ESP 7400 = $ 125,000
* Automatic Storage Retrieval System (ASRS) = $ 750,000
* Cable Racks and Dispensary = $ 30,000
* Computerized & Manual wire Marker System = $ 4,000
* Secured Storage Area = $ 10,000
* Documentation Repository (625 Sq. Ft.) = $ 8,000
* Cable End Presses = $ 1,000
* Braiding Machines (4 each) = $ 40,000
* Automatic Wire Cutters = $ 5,000
* Tensile Strength Testers (Manual & Automatic) = $ 12,000
* Spring Gages = $ 2,000
* Misc. Hand Tools = $ 10,000
* ESD Work Benches (8 each) = $ 16,000
* Desk Top PC System for Database Records = $ 3,000

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* Turbo Cleaner = $ 4,000
* 25 Ton Press = $ 5,000
* 200 Ton Press = $ 28,000
* Hydrostatic Test Tanks = $ 40,000
* Test Fixtures |
* Alignment Stands |
* Inverting Stand |
* Liquid Dye Penetrate Line with Containment Curbs |--
= $ 1,000,000
* Hydro-Pneumatic Test Enclosure |
* 600 PSI High Pressure Air Pump |
* Surface Table (6 FT X 5 FT) = $ 5,000
* Heavy Duty Carts (2 each) = $ 4,000
* Safe (2 each) = $ 11,000

Building:

LAUNCHER OVERHAUL/TEST ASSETS:

* "C" Building 124,998 Sq. Ft. @ $131.37/Sq. Ft. = $16,420535
* "L" Building 12,140 Sq. Ft. @ $100.20/Sq. Ft. = $ 1,216,428

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* Shop Floor Space (40,132 Sq. Ft. @ $100.20 Sq. Ft.) = $ 40,212,264
* Clean Room (ERF) (7876 Sq. Ft. @ $200/Sq. Ft.) = $ 1,575,000
* Clean Room (Computer) (2500 Sq. Ft. @ $200/Sq. Ft.) = $ 500,000
* Clean Room (Optics) (1500 Sq. Ft. @ $200/Sq. Ft.) = $ 300,000
* Clean Room (FACT PC) (750 Sq. Ft. @ $200/Sq. Ft.) = $ 150,000
* Clean Room (Synchro) (288 Sq. Ft. @ $200/Sq. Ft.) = $ 57,600

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* Shop Floor Space (34,540 Sq. Ft. @ $100.20/Sq Ft.) = $ 2,749,089
* Clean Room (7104 Sq. Ft. @ $200/Sq. Ft) = $ 1,420,800

MOTOR OVERHAUL/TEST ASSETS:

* Shop Floor Space (9200 Sq. Ft. @ $100.20/Sq. Ft.) = $ 921,840

Cable Manufacturing/TEST ASSETS:

* Clean Room (4880 Sq. Ft. @ $200/ Sq. Ft.) = $ 976,000
* Shop Floor Space (25,080 Sq. FT. @ $100.20) = $ 2,513,016

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* Secured Shop Floor Space = $ 700,000
  (6800 Sq. Ft. @ $103/Sq. Ft.)

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

* Launcher Overhaul/Test assets: 111,100 CU. FT. 411,000 Pounds
* Fire Control/Director Overhaul/Test assets: 227,630 CU. FT. 132,500 Pounds
* Radar/target Acquisition System assets: 9,936 CU. FT. 69,200 Pounds
* Motor Overhaul/Test assets: 1,201 CU. FT. 11,350 Pounds
* Cable Manufacturing/Test assets: 4,040 CU. FT. 14,200 Pounds
* Turbine

Pump Ejection System assets: 2,451 CU. FT. 20,700 Pounds

TOTAL Launcher Overhaul/Test Facility weight & cube: 356,358 CU. FT. 658,950 Pounds

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

LAUNCHER OVERHAUL/TEST ASSETS:

* 440 VAC 60 Hz 3 Phase Power
* 115 VAC 60 Hz 3 Phase Power
* 115 VAC 400 Hz 3 Phase Power
* 440 VAC 400 Hz 3 Phase Power
* 3500 PSI High Pressure Air
* 2500 PSI High Pressure Air (3 each)
* 100/300/600 PSI Air Pressure
* Steam (Controlled Temperature and Pressure)

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* 115 VAC 400 Hz 3 Phase Power
* 115 VAC 400 Hz 1 Phase Power
* 115 VAC 60 Hz 3 Phase Power
* 208 VAC 60 Hz 3 Phase Power
* 440 VAC 60 Hz 3 Phase Power
* Vacuum System (Class "A" Clean Room)

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* 440 VAC 60 Hz 3 Phase Power
* 115 VAC 400 Hz 3 Phase Power
* 115 VAC 400 Hz 1 Phase Power
* Chilled water for cooling transmitter
* Dry filtered air source

MOTOR OVERHAUL/TEST ASSETS:

* 115 VAC 60 Hz Single Phase
* 220 VAC 60 Hz Single Phase
* 115 VAC 60 Hz 3 Phase
* 480 VAC 60 Hz 3 Phase
* 115 VAC 400 Hz 3 Phase
* 0 - 325 VDC 50 Amp
* 150 VDC 50 Amp
* 200 VDC 17 Amp

Cable Manufacturing/TEST ASSETS:

* 208 VAC 60 Hz 3 Phase

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* 440 VAC 60 Hz 3 Phase Power

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

LAUNCHER OVERHAUL/TEST ASSETS:

* Reinforced concrete foundation for test stands
* 2 Ton Jib Cranes (16 each) = $ 156,000
* 1 1/2 Jib Cranes (2 each) = $ 24,000
* 3/4 Jib Crane = $ 12,000
* 2 Ton Trolley Crane (5 each) = $ 75,000

* 20 Ton Overhead Cranes (2 each) = $ 618,000
* 75 & 25 Ton Dual Overhead Crane = $ 1,393,000
* 20 & 5 Ton Dual Overhead Crane = $ 375,000

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* ESD workstations
* Concrete Foundation to Support Test Stands
* 5 Ton Overhead Crane = $ 100,000
* 50 Ton Overhead Crane = $ 1,343,000
* 2 Jib Ton Cranes (6 each) = $ 72,000

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* ESD workstations
* RF shielding for high power transmitter test
* 5 Ton Overhead Crane = $ 100,000
* 10 Ton Overhead Crane = $ 175,000
* 2 Ton Jib Crane = $ 12,000
* 1 Ton Jib Cranes (2 each) = $ 12,000
* 60 Ft. Radio Beacon Tower and Transponding Equipment for Ranging = $1,118,000

MOTOR OVERHAUL/TEST ASSETS:

* 1/4 Jib Crane = $ 6,000
* 2 Ton Overhead Crane = $ 30,00

CABLE MANUFACTURING/TEST ASSETS:

* 2 Ton Overhead Cranes (4 each) = $ 48,000
* 5 Ton Overhead Crane = $ 100,000

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* 10 Ton Overhead Crane = $ 175,000

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

LAUNCHER OVERHAUL/TEST ASSETS:

* Air condition launcher control room for solid state control panels and test equipment.
* Air condition clean room for overhaul of hydraulic subassemblies.
* Certified Mercury Free
* Certified Asbestos Free

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* Environmentally controlled air temperature and humidity
* Class "A" Clean Room
* Certified Mercury Free
* Certified Asbestos Free

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* Environmentally controlled air temperature and humidity
* Radiation "safe operating zones", fenced "safety operating zones" with appropriate warning slings and devices.
* Certified Mercury Free
* Certified Asbestos Free

MOTOR OVERHAUL/TEST ASSETS:

* Certified Mercury Free
* Certified Asbestos Free

CABLE MANUFACTURING/TEST ASSETS:

* Certified Mercury Free
* Certified Asbestos Free
* Environmentally Controlled Air Temperature and Humidity
* Electric Static Discharge (ESD) work environment

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* Certified Mercury Free Environment
* Certified Asbestos Free

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

DIFFICULTY TO REPLICATE OR RELOCATE ?

LAUNCHER OVERHAUL/TEST ASSETS:

* This equipment would be extremely difficult to move.

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* This facility would be extremely difficult to replicate at another site. Most of the testing is performed on computer controlled test stations. Alternate test stations would have to be exact duplicates in order to utilize the test programming. Duplicating the test fixtures would be a costly and time consuming process.

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* Extensive plumbing and waveguide runs required for testing would make it extremely difficult to relocate this facility

MOTOR MANUFACTURING/TEST ASSETS:

* This equipment would not be extremely difficult to move.

Cable MANUFACTURING/TEST ASSETS:

* The equipment would not be extremely difficult or impossible to move.
* The Clean Room would be impossible to move.

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* This facility/equipment would not be extremely difficult to move.

IMPACT ON THE NAVY IF THIS FACILITY WAS LOSS ?

NSWC Louisville is a unique facility in an excellent geographic location in the central midwest. This location provides a consolidated "full spectrum" activity in an affordable labor market that is capable of supporting the East and West coasts along with the Gulf Coast. Coupled with the co-location

of engineering and industrial capabilities, this makes NSWC, Louisville an affordable one stop shop for our customers. The lower cost of living for this area attracts and retains quality technical people which sustains our stability, necessary for maintaining a "smart buyer" capability over the maintenance cycle of Missile Launching Systems.

The Launcher Systems Overhaul/Test Facility is the only knowledge-based multi-disciplinary technical/production workforce in the Navy capable of refurbishing or overhauling a multitude of Surface Missile Systems Launchers and associated equipments for the Fleet. As part of the only existing organic facility involved in depot overhaul and remanufacturing of surface missile and self-defense systems and components

with full test capabilities, the loss of the Launcher Systems Overhaul/Test Facility and its special facilities would have a detrimental affect on the Naval Surface Warfare Fleet and on the Navy's ability to perform it's mission.

In-house technical/management staff exercise's a "smart buyer" role when identifying/procuring replacement components for sole-source material no longer available from original equipment manufacturer (OEM). This capability is maintained through years of experience and hands-on participation of production engineers, project managers and production and support staff. Through controlled competition and informal analysis, costly duplication of effort and reduced costs of development, procurement, logistics and support are avoided by the "smart buyer" concept.

Integrated capabilities and facilities for overhaul and final acceptance testing can be adapted with minimal cost and effort for many different systems. Because of the many years of experience, our personnel can also adapt to working on these different systems. This gives us the ability to provide a turnaround DOP program which would return an overhauled system with high quality to the Fleet in a short period of time and within reducing budget restraints.

The loss of the Launcher Systems Overhaul/Test Facility would result in the Navy losing a capability to update/modify/overhaul existing surface missile systems to respond to constantly changing conditions. Also lost to the Navy would be 3773 total years of personnel expertise and knowledge which cannot be replaced. As equipment ages and OEMs are no longer involved with the systems, there would not be a organization that could overhaul the old systems to improve their reliability and usefulness to the Fleet.

This facility is the only location for test and repair of most of the Circuit Card Assemblies (CCA). Loss of this facility

would cause delays in overhaul and repair of critical shipboard systems.

The Navy would loose organic capability as a competitive bench mark against which to evaluate cost of overhaul and maintenance in the private sector.

The Navy would loose the ability for depot maintenance of equipment when the overhaul/maintenance is considered no longer financially attractive to private sector companies

The Navy would loose surge capacity for emergency system maintenance requirements including ability to respond to CASREPs.

The workload within the private sector is subject to:

1.) Labor strikes
2.) Market exit
3.) High market entry costs for competition

Declining defense budgets have and will continue to severely limit the availability and economic viability of other sources of industrial life cycle support for this Launcher Overhaul/Test Facility. Therefore, this facility must be retained for the Navy to be able to continue as a "smart buyer" of fleet industrial readiness support for launching systems.

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

LAUNCHER OVERHAUL/TEST ASSETS:

* The equipment was trucked to the site and the test stands/fixtures were constructed on site:

MK 10 Terrier equipment 1988
MK 112 ASROC equipment 1970
MK 44 ABL equipment 1989
MK 34 SVTT equipment 1970
MK 11 Tartar equipment 1977
MK 13 Tartar equipment 1991
MK 26 Tartar equipment 1992

FIRE CONTROL [illegible]TOR OVERHAUL/TEST ASSETS:

* Fire Control Computer equipment was trucked to the site in 1967 and the Clean Room was constructed on site in 1970.

* Director equipment was trucked to the site or fabricated on site in 1967.
* FACT PC Clean Room was constructed on site in 1984 and the FACT PC was shipped VIA truck and interconnected on site in 1989.
* Optics Clean Room was constructed on site and the equipment was trucked to the site in 1968.
* Synchro equipment was trucked to the site in 1976.
* Electronic Repair Clean Room was constructed in 1984 and it equipment was trucked to the site from 1970 thru 1993.

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* MK 92 Test Stand was constructed on site in 1990 and the equipment was transported by truck from 1989 thru 1991.
* The Target Acquisition System (TAS) equipment was trucked to the site and assembled in 1991.
* The Radar Test Beds equipment was trucked to the site beginning in 1996 and have been upgraded and added per program requirements.

MOTOR OVERHAUL/TEST ASSETS:

* The equipment was moved by truck to the site from 1968 thru 1991.

CABLE MANUFACTURING/TEST ASSETS:

* The equipment was transported by truck from 1970 to 1994.

TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:

* Secured work area was constructed on site 1991
* Equipment was trucked to site. 1991 - 1992.

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

LAUNCHER OVERHAUL/TEST ASSETS:

* Functional Support Areas: 1.3 Surface Ships
  2.2 Guided Missiles
  2.4 Torpedoes
  2.8 Launchers

FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:

* Functional Support Areas: 1.3 Surface Ships

2.1 Gun Systems
2.8 Launchers
2.9 Fire Control
2.10 Weapons Data Link
5.2 Radar Systems

RADAR/TARGET ACQUISITION SYSTEM ASSETS:

* Functional Support Areas: 1.3 Surface Ships
2.2 Guided Missiles
2.8 Launchers
2.9 Fire Control
2.10 Weapons Data Link
5.2 Radar Systems

MOTOR OVERHAUL/TEST ASSETS:

* Functional Support Area: 1.3 Surface Ships
2.1 Gun Systems
2.8 Launchers
2.9 Fire Control
2.13 Other Ordnance
5.2 Radar Systems

CABLE MANUFACTURING/TEST ASSETS:

* Function Support Area:
1.1 Undersea
1.2 Aircraft
1.3 Surface Ships
1.5 Ground Vehicles
2.1 Gun Systems
2.2 Guided Missiles
2.4 Torpedoes
2.8 Launchers
2.9 Fire Control

TURBINE PUMP EJECTION SYSTEM YOVERHAUL/TEST ASSETS:

* Function Support Area: 1.1 Undersea
2.4 Torpedoes

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

(unit of measure = Workyears)

1989	1990	1991	1992	1993

* LAUNCHER OVERHAUL/TEST ASSETS: 848482
108 71
* FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS: 60 5957
44 42
* RADAR/TARGET ACQUISITION SYSTEM ASSETS: 242428
20 17
* MOTOR OVERHAUL/TEST ASSETS: 18
18 18 18 18
* CABLE MANUFACTURING/TEST ASSETS: 5
5 5 5 5
* TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS: 0 1
3 7 10

12. Provide the projected utilization data out to FY 1997:

(Unit of measure = Workyears)

	1994	1995	1996	1997
* LAUNCHER OVERHAUL/TEST ASSETS:	40	68	63	48
* FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:	25	24	25	25
* RADAR/TARGET ACQUISITION OVERHAUL/TEST ASSETS:	12	17	19	21
* MOTOR OVERHAUL/TEST ASSETS:	11	11	11	11
* CABLE MANUFACTURING/TEST ASSETS:	20	27	27	27
* TURBINE PUMP EJECTION SYSTEM OVERHAUL/ * TEST ASSETS:	4	4	4	4

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

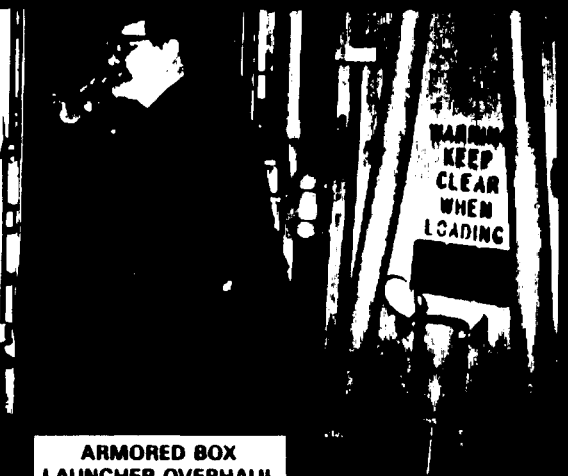
* LAUNCHER OVERHAUL/TEST ASSETS: 40 Workers
* FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS: 25 Workers
* RADAR/TARGET ACQUISITION SYSTEM ASSETS: 13 Workers
* MOTOR OVERHAUL/TEST ASSETS: 11 Workers
* CABLE MANUFACTURING/TEST ASSETS: 20 Workers
* TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS: 4 Workers

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

* LAUNCHER OVERHAUL/TEST ASSETS:	8 Workers
* FIRE CONTROL/DIRECTOR OVERHAUL/TEST ASSETS:	9 Workers
* RADAR/TARGET ACQUISITION SYSTEM ASSETS:	6 Workers
* MOTOR OVERHAUL/TEST ASSETS:	2 Workers
* CABLE MANUFACTURING/TEST ASSETS:	1 Workers
* TURBINE PUMP EJECTION SYSTEM OVERHAUL/TEST ASSETS:	1 Workers

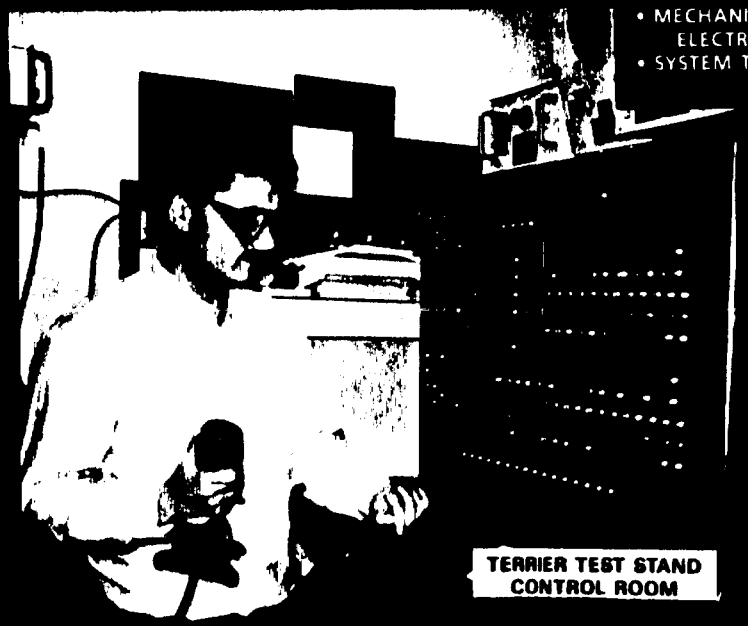
SURFACE MISSILE SYSTEMS LAUNCHERS

TERRIER LAUNCHER TEST STAND

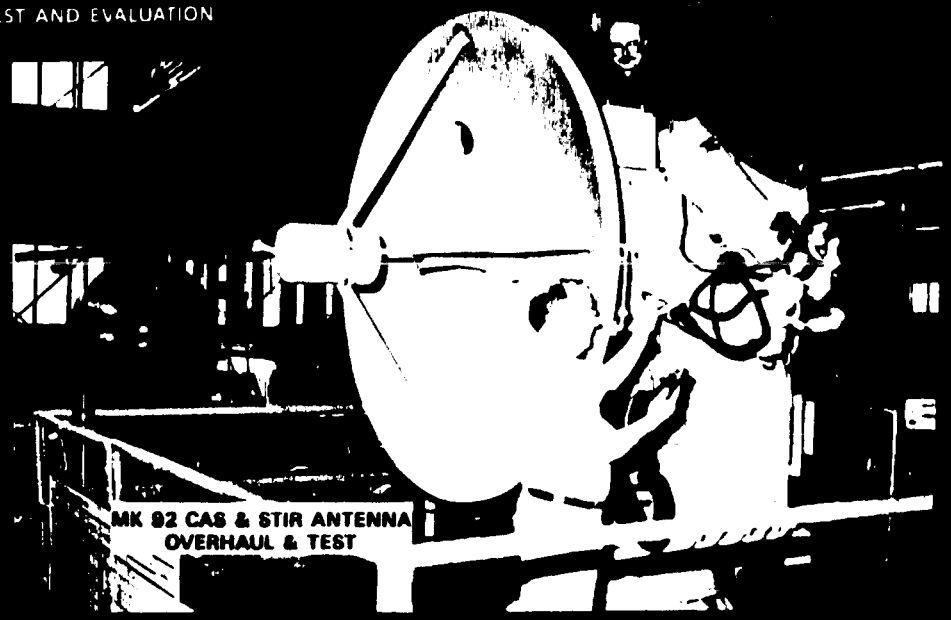


ARMORED BOX LAUNCHER OVERHAUL

- DEPOT OVERHAUL FACILITY
- FLEET INDUSTRIAL SUPPORT
- MECHANICAL, HYDRAULIC & ELECTRICAL OVERHAUL
- SYSTEM TEST AND EVALUATION



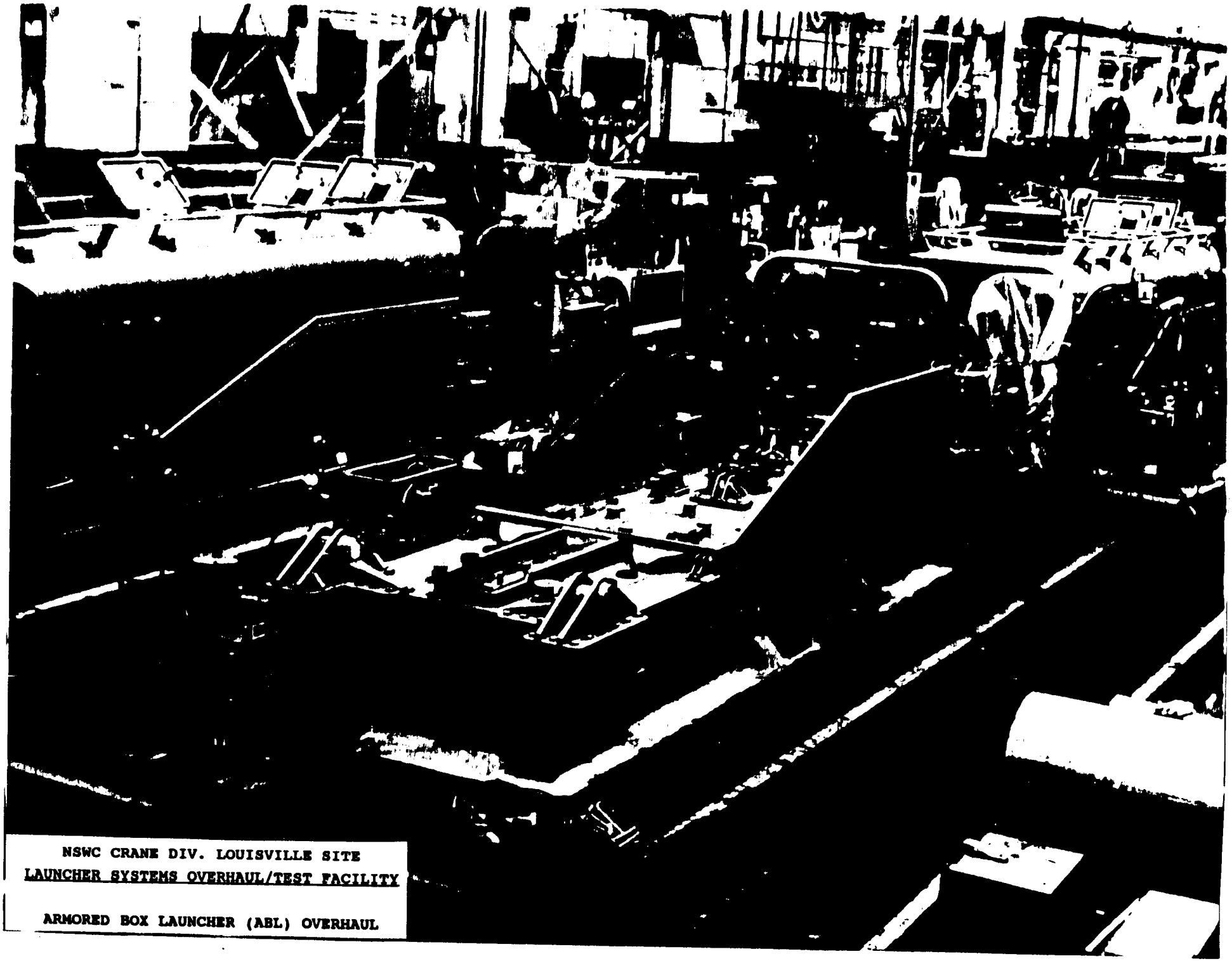
TERRIER TEST STAND CONTROL ROOM



MK 92 CAS & STIR ANTENNA OVERHAUL & TEST

NSWC CRANE DIV. LOUISVILLE SITE

LAUNCHER SYSTEMS OVERHAUL/TEST FACILITY



NSWC CRANE DIV. LOUISVILLE SITE

LAUNCHER SYSTEMS OVERHAUL/TEST FACILITY

ARMORED BOX LAUNCHER (ABL) OVERHAUL

NSWC CRANE DIV. LOUISVILLE SITE

LAUNCHER SYSTEMS OVERHAUL/TEST FACILITY

SHOP FLOOR

NSWC CRANE DIV. LOUISVILLE SITE

LAUNCHER SYSTEMS OVERHAUL/TEST FACILITY

600 HP DYNAMOMETER

NSWC CRANE DIV. LOUISVILLE SITE

LAUNCHER SYSTEMS OVERHAUL/TEST FACILITY

AUTOMATED CIRCUIT CARD TEST ROOM

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NSWC, CRANE DIV. LOUISVILLE SITE
Facility/Equipment Nomenclature or Title	Code 304 Mock-up facilities/equipment

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

U.S. Navy ships and ashore sites are vulnerable to attack by militant groups, terrorists, criminals, criminal dissidents, and others. Threats are continuous in nature and affect U.S. Navy ships while dockside, at anchorage, in both foreign and domestic ports and; ashore sites in CONUS and outside CONUS. The threat is validated by the System Threat Analysis Report (STAR 02-88). The shortcomings of current systems, and approaches to resolving these shortcomings, are described in documents such as the Shipboard Physical Security Operational Requirements Document (ORD 329-09N/B-93). The value of a full spectrum support program to prevent shipboard losses, and compromise of weapons, resulted in the designation of Naval Ordnance Station Louisville as a Center Of Excellance (COE) for Shipboard Physical Security in 1987. At that time the Station's formal Mission Statement was also changed in the NAVSEASYSCOM Instruction to include this role.

The Shipboard Physical Security Program Management and Execution Capability is unique because it is the only site in DON where unique shipboard facilities, technical expertise, program management capabilities, physical security knowledge and shipboard test and evaluation experience come together in a single location. As the recognized expert for shipboard physical security research and development, acquisition and life cycle support, NSWC, Louisville has developed an organic support capability as well as a "smart buyer" capability in evaluating private industry products and other Service's security products. As the DON's lead activity for Shipboard Physical Security, as designated by CNO, N09N1, this Technical Capability assists CNO in establishment of Navy policy for physical security and validates technical requirements through the CNO (N86, N87, and N88) platform sponsors. An example is the Operational Requirements Document approved in March, 1993, which was prepared by NSWC, Louisville, and staffed through the CNO sponsors.

The current and future missions of this Technical Capability are to execute the COMNAVSEASYSCOM Program Management functions for the Shipboard Nuclear Weapons Security (SNWS) Program and the Shipboard Physical Security (SPS) Program. Both programs are designated Priority 02 (FAD II, Designator A) and program priorities are established through the Program Manager at NSWC, Louisville.

The SNWS program is in the Production/Deployment phase and includes the acquisition and installation of the MK 4 Protected Voice Portable Communications System (PVPCS), the MK 6 Shipboard Internal Locking System Module (SMILS) and the MK 1 Magazine Security System (MSS). These equipments are procured through the NSWC, Louisville Contracting Office and installed by NSWC, Louisville Alteration Installation Teams (AIT). This TC also includes Integrated Logistics Support Management and Life Cycle Management. NSWC, Louisville coordinates with the CNO, N09N1, resource sponsor for the acquisition of equipments and with the CNO Platform Sponsors (N865, N866, N87 and N88) for Fleet Modernization Program (FMP) funds and life cycle support funds.

The SPS program is in the RDT&E phase and work is performed directly for CNO, N09N1, to develop, acquire and adapt physical security equipments for shipboard use. As Technical Direction Agent (TDA), NSWC, Louisville directs the efforts of two other participating field Activities (NISE EAST, St. Inigoes, Md. and NSWC Dahlgren/CSS Panama City, FL.) in the acquisition, test, evaluation and fleet introduction of various shipboard physical security equipments. The program includes on-board sensors such as Security Television System (STS), Shipboard Access Control System (SACS), Infrared Motion Detectors (IMD), Balanced Magnetic Switches (BMS), Security Force Equipment (SFE) and a Central Alarm Station (CAS) with interfaces to other existing security equipments. Off-board sensors consist of Radars, Swimmer Detection Sonar (SDS) and Hull Lighting improvements.

NSWC, Louisville performs the role of COMNAVSEASYSCOM Program Manager for the SNWS and SPS equipments. The recognized expertise of personnel performing the Technical Direction Agent (TDA) and Acquisition Engineering Agent (AEA) roles provide a "smart buyer" capability for shipboard and ashore equipments and a developmental, test and evaluation capability for all shipboard physical security equipments including Technical Evaluation (TECHEVAL) and support to Operational Evaluations (OPEVALs). The roles of Design Agent (DA), In-Service Engineering Agent (ISEA) and Integrated Logistics Support Manager (ILSM) provide the capabilities for Transition to Production, Fleet support and Life Cycle support for systems/equipments in the SNWS, SPS and ashore physical security programs.

The MK 4 PVPCS and MK 1 MSS are designated as "K" ALT Ship Alterations. NSWC, Louisville is assigned the responsibility of Alteration Installation Team leader for these equipments, attends

fleet scheduling conferences and provides input to schedule availability with the appropriate Type Commander and executes the installation by providing on-site support. Follow-on fleet support is provided by the same Engineering Technicians. Ordnance Alterations (ORDALTS) and Machinery Alterations (MACHALTS) are also developed by the same engineering and technical personnel and are "proofed" in the Fleet by the engineers and field service engineering technicians. This provides a synergism unattainable without a full spectrum support activity. A unique shipboard mock-up is located at NSWC, Crane, Louisville site, where all equipments/systems are installed, maintained, evaluated and tested prior to shipboard installation. Fleet training is also provided on the equipments prior to TECHEVAL/OPEVAL.

These functions provide a system level capability for shipboard physical security equipments/systems and provides the DON with a single location for resolution of fleet technical requirements and a reliable, responsive, enduring capability for fleet support.

The essential skills, knowledges and technical expertise required to accomplish all tasks within this Technical Capability are available at NSWC, Louisville, and include: an established core of engineers (electronic, mechanical, naval architect) to perform design tasks, research, development, test, evaluation and software development; technical specialists (logistics management specialists, equipment specialists, physical security specialists, program analysts, computer specialists and engineering technicians) to support a "smart buyer" capability, conduct test and evaluation, perform fleet and ashore installations and provide equipment/system life cycle support and; administrative personnel. This team includes a core of 64 engineering and technical support personnel and relies on other NSWC, Louisville specialized personnel for the remaining direct work-years. The average experience for technical personnel supporting this Technical Capability is 12 years.

Extensive use is made of the College co-operative internship program to acquire new engineers and training is provided through various sources to provide them with the necessary skills and knowledges in shipboard equipment/systems and physical security requirements. Electronics engineers specializing in Radio Frequency (RF) technology are one example of the skill mix required for this Technical Capability. Inherently Governmental roles include research, development and test of "off-the-shelf"/NDI hardware and development of unique items, transition-to-production, classified software development, fleet introduction and life cycle logistics support. The RDT&E effort requires NSWC, Louisville to provide the technical direction and funds allocation to other participating field Activities. Funds are provided directly to the other Activities, via the NAVSEASYSCOM, based on annual Business Plans provided by

the NSWC, Louisville Program Manager. Core personnel allocate these resources based on overall program priorities.

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

The above mentioned assets would be considered moveable, as defined by paragraph 6, page 12.

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

The core personnel and unique assets supporting this Technical Capability reside at NSWC Crane Div., Louisville site. A 7,980 sq. ft. building was constructed in two phases, in 1986 and 1990, using program funds. The building is a "secure area", TEMPEST certified for processing classified data, and utilizes 5,568 sq. ft. for offices for 45 personnel. The building contains an internal, secure, Local Area Network (LAN) and an independent interface to the NSWC, Crane Div. LAN.

Unique assets include a 1,572 sq. ft. mock-up of functional shipboard equipments. The mock-up is constructed of steel, with shipboard doors, hatches, scuttles, J-doors, lagging, lighting and ship's power to simulate a ship's magazine and surrounding spaces. A production version of the MK 4 PVPCS, MK 6 SMILS and MK 1 MSS are installed in and around the mock-up for developmental testing, evaluation and fleet training. These equipments are also used by the engineers and technicians to simulate and evaluate fleet problems, develop ORDALTS, SHIPALTS, MACHALTS, and evaluate interfaces to new sensors. Comprehensive vulnerability scenario testing is conducted and surreptitious penetration analysis is performed to evaluate equipment effectiveness for a wide range of threats. This mock-up was also used for fleet training prior to introduction of these equipments into the fleet.

An additional 840 sq. ft. mock-up was constructed for the RDT&E program, in 1992, which utilizes steel bulkheads, doors and hatches to simulate a ship's quarterdeck and Damage Control Central [illegible] spaces for the installation, test and evaluation of prototype equipment. A functional IC/SFZ switchboard, and components are installed in this mock-up to test security equipment interfaces. A Security Television System, Shipboard Access Control System, Radar and other security devices are installed and tested in this mock-up.

Prototype manufacturing capabilities include a soldering station, an ESD station and Printed Wiring Assembly (PWA) workstations to accommodate circuit board design and simulation for development of shipboard physical security equipments.

Classified software development stations are installed in the mock-up to facilitate internal software programming. The building is TEMPEST certified for development of SECRET software and SECRET storage facilities are available for hardware and software. Software support capabilities include extensive off-the-shelf software analysis, evaluation of software distribution techniques and realtime in-circuit analysis of operational software.

Mock-up #1 equipment:

Original construction (material)	$35,000.00
Original construction (labor)	$57,600.00
Mk 1 MSS	$200,000.00
Mk 4 PVPCS	$90,000.00
SMILS & Misc. test equipment	$40,000.00
TOTAL (Mock-up #1)	$422,600.00

Mock-up #2 equipment:

Original construction (material)	$8000.00
Original construction (labor)	$19,200.00
SPS Equipment	$66,050.00
Test Equipment	$43,618.00
proto-type equipment	$28,483.00
proto-type software	$25,799.00
TOTAL (Mock-up #2)	$191,150.00

Facilities:

Building 83 Facility	$347,849.00
Furnishings	$16,000.00
Mezzanine	$18,000.00
SPS Library	$7,200.00
Railcar (storage)	$15,000.00
TOTAL	$404,049.00

Combined total(facilities/equipment) $1,017,799.00

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

Mock-up #1: 20,500 lbs., 12,576 cubic feet
Mock-up #2: 7,000 lbs., 6,720 cubic feet

Office Space 5568 square feet

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

Incoming AC power is processed through internal independent power transformers to provide isolation with external power system equipment, and phase input power to simulate shipboard distribution systems.

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

This facility is an approved exclusion area comprised of perimeter security fencing, electronic and mechanical access control devices. This facility is also TEMPEST compliant since processing classified information is a program requirement.

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

None.

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

The location of this Technical Capability at NSWC, Louisville provides the personnel, unique facilities and support personnel to accomplish the mission. The close proximity of major universities and colleges is a resource for cooperative education students (engineers in training) and a source for new engineers and technicians. The location is also convenient to customers on each Coast and the Wash, D.C. area for coordination with program sponsors.

The personnel and assets supporting this Technical Capability provide support and services unduplicated within any of the Warfare Centers. The diversity of skills, trades and facilities utilized in the development, acquisition, test, evaluation, installation and life cycle support of shipboard physical security equipments/systems provides the synergism to maintain a "smart buyer" capability and enhance the level of physical security for fleet units to meet the Navy's changing role. The shipboard mock-ups provide a highly unique asset to test and evaluate equipment, provide fleet training and evaluate/resolve fleet problems.

The interfunctional relationship between the core group of engineers, technicians and logistics management personnel is essential for optimal acquisition, supply support and continued improvements for shipboard physical security. The roles assigned

to this Technical Capability are inherently Governmental and are essential for long-term core logistics support to the fleet.

The loss, or transfer, of this function would seriously limit the ability of the Navy to provide economical, technically capable, programmatic, engineering and logistics support expertise to the fleet. Transfer of this Technical Capability would result in the loss of many experienced physical security personnel who would choose not to relocate. If funds are not available to relocate the mock-ups, a serious impact would result from the inability to conduct in-house testing of off-the-shelf devices and internal developments. Deletion of this Technical Capability function would eliminate all "coordinated" progress toward enhanced physical security for fleet units and the requirements for commonality, logistics supportability and configuration management of equipments/systems for fleet units would not be met.

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

Both mock-up facilities were constructed on site by NAVSURFWARCEN ORDSTA Louisville personnel, (riggers, welders, electricians, etc.). The magazine mock-up was constructed in 1986. The quarterdeck mock-up was constructed in 1992.

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

1.3 Surface Ship

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

Over the past five years, the magazine mock-up has been used on the average of approximately 40 hours per week. There have been occasions when equipment was left to operate continuously (24 hrs/day) for testing purposes.

12. Provide the projected utilization data out to FY1997:

Projected use of both mock-ups is expected to be in excess of 40 hours per week up through FY1997.

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

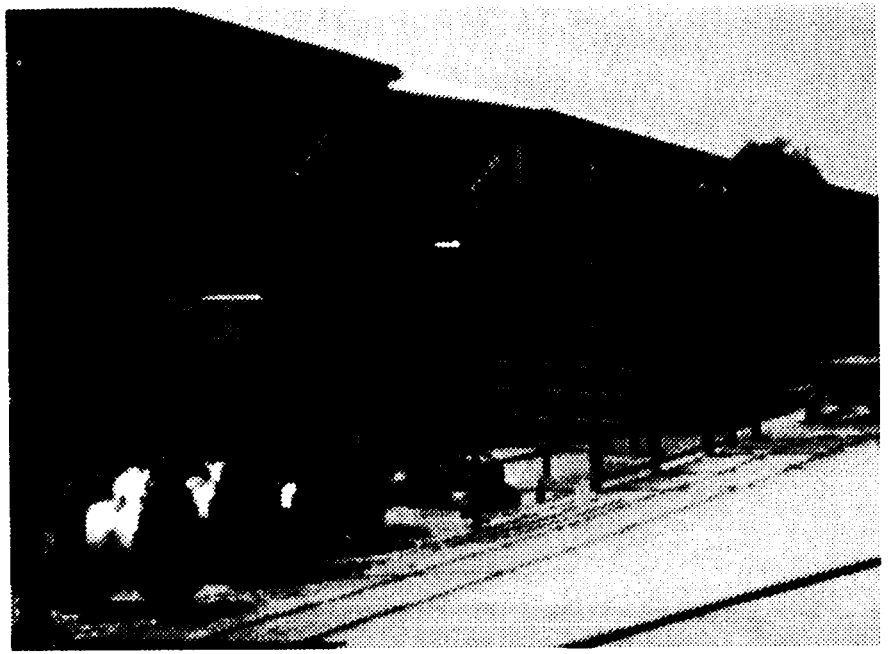
Approximately 25

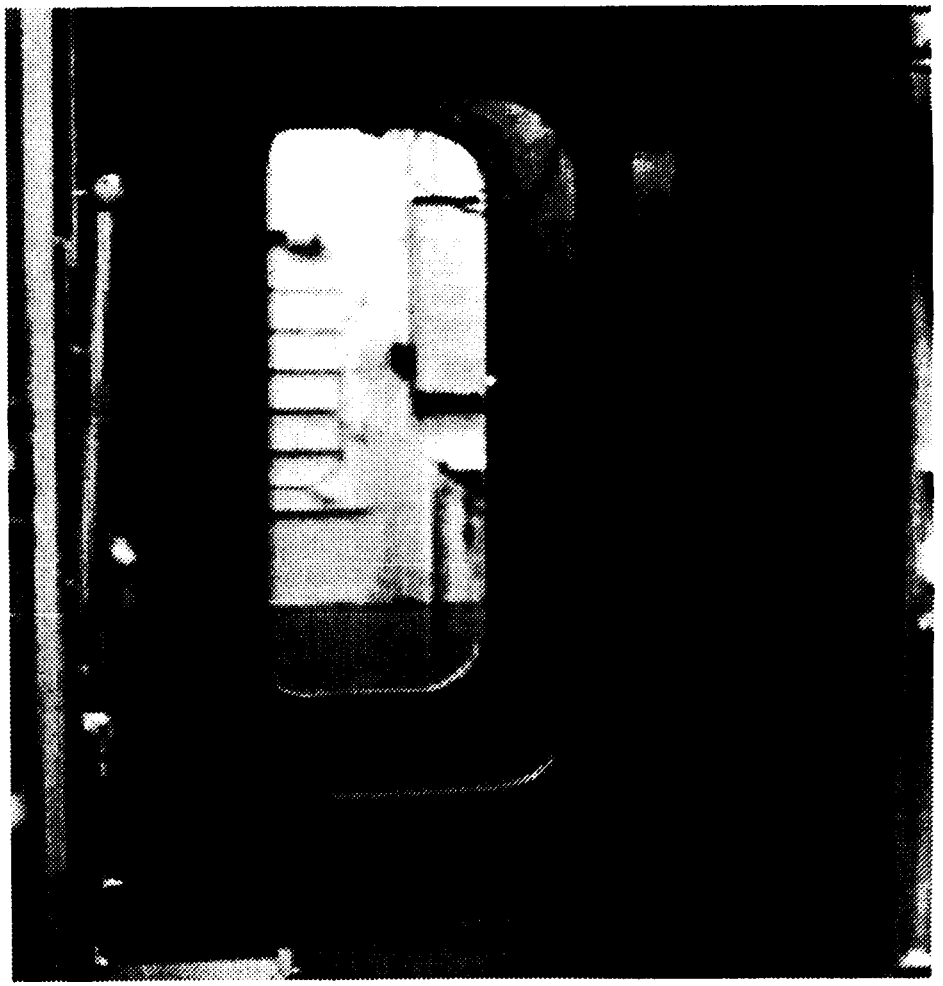
14. What is the approximate number of personnel needed to maintain the equipment:

Approximately 3

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

Shipboard Physical Security Programs Mock-up Area





SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NSWC/Louisville
Facility/Equipment Nomenclature or Title	Naval Gun Weapons Systems Facility

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

The Naval Gun Weapons Systems Facility is a **uniquely integrated, fully operational, "state of the art"**, engineering and industrial facility (Louisville Site) which provides the Navy, as well as other DoD, non-DoD and FMS customers, with the **only qualified and certified depot** facility for Naval Gun Weapons Systems (due to previous consolidations, closures and downsizing initiatives, there is **no other similar facility that exists)**.

The primary missions of this facility are to provide **core leadership** in the acquisition, maintenance, and operational support of in-service and emerging NGWS/equipments; maintain the Navy's corporate memory **(technical knowledge repository)** of sufficient breadth, depth, and continuity to be able to perform as a smart buyer; maintain rapid response capability for reconstitution of our Naval forces if mobilization is needed to ensure that current and future fleet operational **readiness** requirements are achieved and maintained; through defense conversion and technological transfer initiatives, and strengthen the private sector's technology base for mission critical elements of NGWS/equipments. Future operational requirements, influenced by the Littoral Warfare Strategies described in "*...From the Sea*" insures that the requirement for this facility will be an enduring capability to provide Fleet readiness support. This facility is considered to be **fully capable of meeting any future projected needs.**

This facility is a collocation of engineering and depot maintenance facilities which provides the Navy a **unique full spectrum life cycle support capability to respond to reconstitution, surge/mobilization and rapid response requirements for Naval Gun Weapons Systems. This facility is a national asset recognized for its expertise as a leader both in and outside DoD.** The collocated Specialized Mechanical Devices Facility which was designated by the DoD Joint Logistics Center as one of the two original Flexible Computer Integrated Manufacturing (and Repair) (FCIM) Process Validation Enterprises for mechanical parts provides **significant and unique** support to this facility. The major assets (both personnel and equipment) supporting this facility represent a **unique capability which is economically impractical to replicate or relocate.** The following describes these assets:

- Highly Skilled Experienced Technical Personnel
- Gun Weapon Systems Maintenance & Overhaul Support Facility
- Gun Weapon Systems Engineering/Test & Advanced Training Facility
- Gun Weapon Systems Engineering Lab & Test Tower Facility
- Software Development/Test & Maintenance Facility
- Engineering & Production Documentation Support Facility
- Close-In Defense Modernization/Upgrade/Overhaul Facility
- Performance Engineering and Training Systems (PETS) Facility
- TE8000 Weapon System Test Range
- TE125 Indoor Antenna Analyzer/Compact Range
- Calibration Laboratory Facility
- Soldering & Wiring Technology Facility

1. (Con't)

Following are descriptions of the primary purposes of the major assets of this facility:

- Highly Skilled Experienced Technical Personnel - The technically sophisticated NGWS/equipments require a professional and technical personnel staff with a broad mix of skills and knowledge in the fields of science, engineering, logistics, ordnance technicians and industrial specialists. NSWC, Louisville's experienced engineering and technical support staff **are recognized by both the public and private sectors as the Navy's leading experts for Naval Gun Weapons Systems.** Although much of the skill mix has been achieved through formal education or apprenticeships and masters programs, the application of these skills in a hands-on environment over the period of operation of the NSWC, Louisville facilities (50 years) represents a significant corporate memory which is the **repository of technical knowledge** for NGWS/equipments gained through experience throughout the entire life cycle process. Their purpose is to **provide the continuity** inherently required in the support process of technically sophisticated NGWS/equipments.

- Gun Weapon Systems Maintenance & Overhaul Support Facility - The purpose of this asset is the integration and testing of complex gun systems ranging in size from 20 mm to 8 inches together with associated ammunition handling systems. This includes the capability to perform complete disassembly of major and minor caliber gun mounts, remanufacturing of the individual components and the subsequent buildup of the components including the alignment and interfacing of each component into a functions operating gun mount. This asset also possesses all the required capabilities to perform all required functional tests of the gun mounts to assure proper and functional operation of all the components installed during re-assembly of the mount. This is inclusive of providing components for all these systems for the Supply Parts Control Center (SPCC) Navy and the 2J Cog component support.

- Gun Weapon Systems Engineering/Test & Advanced Training Facility - The purpose of this asset is to provide engineering prototype development, integration testing, documentation verification, training, simulation of duplicate fleet conditions and fleet support. This asset provides intermediate level training for U.S. Fleet, civilian and foreign military training requirements. This asset consists of the 5"/54 caliber MK 45 and MK 42 Gun areas, the 76mm MK 75 Gun area, the 3"/50 MK 33, the MK 30 Gun areas, a minor caliber indoor firing range, and associated classrooms.

  This asset has a unique projectile return chute system that allows rounds to be pushed out the end of the gun barrel and returned two deck levels down to the loader drums for recycling. This asset is capable of cycling dummy ammunition through the entire loading sequence as well as operating in automatic, step load, and simulate mode (i.e. MK 45 and MK 42).

  This asset has an on-site indoor live fire testing associated with the 3"/50 area behind bullet proof glass and fixed permanent mounting for a variety of weapons. Next to the bullet proof glass is a small staging area with work benches and testing equipment. Outside the building is the projectile collector which consists of a bullet trap, a 500 gallon tank filled with 50 percent water and 50 percent antifreeze, and a pump. The pump cycles the water mixture in the trap to decelerate the projectile. This asset also provides live fire proofing for the MK 19 Mod 3 40mm Grenade Machine Gun, it's barrels and prototype weapon designs and concepts. The proofing of the MK 19 Mod 3 and barrels are crucial for inspection and prompt turn around on overhaul.

- Gun Weapon Systems Engineering Lab & Test Tower Facility - The purpose of this asset is to provide In-Service and Product engineering functional area support for related test, development, specialized repair, maintenance management, and improvements to Gun Weapon Systems and Equipments. This includes Digital Gun Computing/Data Processing Systems, software/firmware certification and equipment support to Gun Weapon Systems Integration Testing prior to shipboard/fleet installation and utilization.

1. (Con't)

- Software Development/Test & Maintenance Facility - The purpose of this asset is the development and maintenance of tactical and operational software unique to Naval Gun Weapons Systems (i.e. MK 34 Gun Weapon System and MK 68 Gun Fire Control System), and the development of Test Program Sets (TPSs) in support of testing (i.e. depot, intermediate and operational level maintenance) and documentation for various systems including AN/SPS-49 Radar, MK 15 PHALANX, MK 57 NATO Seasparrow Surface Missile System, MK 86 Gun Fire Control System, MK 23 Target Acquisition System, MK 42 Gun Mount, MK 45 Gun Mount, MK 68 Gun Fire Control System, and the MK 13 Missile Launcher. These TPSs are for either the AN/USM-465 Portable Service Processor or the AN/TSM-192 Transportable Analog Tester. Software Development Branch personnel are also beginning development of TPSs for the Consolidated Automated Support System (CASS).

- Engineering & Production Documentation Support Facility - The purpose of this asset is to provide a Central Computer Aided Design and Drafting (CAD) area. This asset contains six CAD and CAD related systems that are used to develop three-dimensional engineering models for mechanical and electrical product design and to produce electronic printed wiring board Phototool Masters for electronic circuit card manufacture. This asset has been given authority by NAVSEA to control the creation and modification of all final official Navy full disclosure drawings. High quality master engineering drawings are produced for microfilm distribution to Navy and Contractor facilities involved in refurbishment, procurement and manufacture of ordnance parts. This asset has been involved in the implementation of a CALS compliant CAD and Image Systems Support Center. This asset is capable of receiving digital data from Contractor and other Navy CAD systems on magnetic tape, floppy disks and over an Ethernet network connection. This asset is also capable of analyzing, editing and converting the digital data using CALS data transfer standards and methods.

  In addition, this asset includes a Technical Reference Center which serves as the Central Reference, Research and Distribution Center for Technical Material that contains technical books, journals, reports, manufacturing data, magazines and an audio and video tape library on all the latest in ordnance equipment. An extensive documentation service on CD-ROM is also available including Military Specifications, Industry Standards, Naval and DoD instructions, World Wide Industry Standards and Vendor Information.

- Close-In Defense Modernization/Upgrade/Overhaul Facility - The primary purpose of this asset is to provide the only Department of Defense asset certified/validated to perform modernization/upgrade/overhaul of Close-In Defense Systems. Close-In Defense Systems includes the PHALANX Close-In Weapon System (CIWS) and the Rolling Airframe Missile (RAM) Guided Missile Launching System (GMLS). This asset includes the Production Engineering and Repair area, the Phalanx Engineering Maintenance area, an Automated Storage and Retrieval System (ASRS), an Environmental Test area and a Pneumatic Test area. The following paragraphs describe the assets:

  -This asset is used for modernization/upgrade/overhaul of PHALANX CIWS and RAM GMLS Weapon systems including system, subsystem and component testing and evaluation. This asset supports the US Navy Fleet and directed Foreign Military Sales (FMS) workload.

  -The Production Engineering and Repair area performs modernization, upgrade, repair and acceptance testing of digital, analog, hybrid, electromechanical/inertial, RF and microwave modules and assemblies. This asset is also used to design and develop TPSs for fault isolation and acceptance testing. In addition, this asset includes a Complex Information Network System used for supporting reliability and maintainability analysis performed by the In-Service Engineering Agents (ISEA).

  -The Phalanx Engineering Maintenance area provides operational and maintenance support of the Naval Sea Systems Command Engineering test and evaluation systems. These systems include both Engineering Development Model (EDM) and Production Suitability Model (PSM) systems which are utilized in such tasks as advanced engineering development, software validations, production procedures and proofing support, test analyze and fix functions, and qualification and acceptance testing.

-The ASRS automatically stores and retrieves purchased material used in support of the PHALANX and RAM programs.

1. **(Con't)**

-The Environmental Test area provides qualification testing and screening of weapon system subassemblies and components in three environmental areas: Mechanical Shock and Vibration, Humidity and Thermal Cycling and Salt Fog Exposure. This area is used to support Environmental Stress Screening (ESS) during the manufacturing process and provide qualification testing.

-The Pneumatic Test area provides the capability necessary to perform acceptance testing of Pneumatic Gun Drive Subsystem (PGDS) components and subassemblies using high pressure and/or high flow pneumatic test media. This capability includes providing required test stimuli, monitoring equipment, and interface connections.

- Performance Engineering and Training Systems (PETS) Facility - This asset provides PHALANX CIWS operation and maintenance training, fleet and production technical assistance and engineering verification, validation and analysis of PHALANX CIWS; faults, upgrades, software, ORDALTs, ECPs, new vendors and publications.

- TE8000 Weapon System Test Range - This asset provides Subsystem integration and final system acceptance testing of the PHALANX Close-In Weapon System.

- TE125 Indoor Antenna Analyzer/Compact Range - This asset provide certification and acceptance testing of antenna assemblies in the Modernization/Upgrade/Overhaul of MK 15 PHALANX CIWS and MK 92 Fire Control System.

- Calibration Laboratory Facility - This asset provides physical, mechanical, electrical, electronic, dimensional and optical calibration services and support of the Modernization/Upgrade/Overhaul of Naval Gun Weapon Systems.

- Soldering & Wiring Technology Facility - The primary purpose of this asset is to administrate the training and certification of personnel assigned electronic soldering duties related to the Modernization/Overhaul/Upgrade of Naval Gun Weapon Systems.

In summary, this facility has the knowledge and skills of highly specialized professional engineering and technical personnel integrated into a "**state of the art**" engineering/industrial capability. The specialized knowledge and skills needed to perform this capability can **only have been acquired through years of hands-on experience**, formal education, and specialized training. The facility supporting this capability is **unique because it is the only remaining facility within DoD** having both the capability and capacity to provide full-spectrum life cycle support for highly complex Naval Gun Weapons Systems. **This unique facility which could only be replicated at great expense or not at all satisfies DON's Imperative to maintain critical and unique facilities in support of Fleet readiness.** This facility also supports **DON's Acquisition/Contracting Imperative** to retain the ability to function as a "**smart buyer**". In addition, this facility **ensures** that suppliers perform to contract requirements, systems meet operational requirements, contract **and financial** management expertise are retained to perform inherent governmental functions within the life cycle support process. This facility satisfies **DON's Depot/Industrial/Maintenance/Engineering Imperative** by providing an **organic depot** capability which can meet **surge** and **mobilization** requirements; selectively fabricate, modify or repair weapon systems as a means to control costs and **mitigate risks** of supplier failure (Last Source of Repair, **LSOR**); and control access and disassembly to **assess** in-service industrial conditions of weapon systems. Our **rapid repines** ability in crisis situations was demonstrated during *Operation Desert Storm*. This facility would be **required for reconstitution** because it is the **only remaining** facility having the capability to perform this role for NGWS/ equipments. This

capability supports **Level III**, Naval Gun Weapon Systems, which support a broad range of tactical missions as well as the interface requirements of Level II, Combat Weapon Systems.

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

• Gun Weapon Systems Maintenance & Overhaul Support Facility	Fixed
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	Fixed
• Gun Weapon Systems Engineering Lab & Test Tower Facility	Fixed
• Software Development/Test & Maintenance Facility	Moveable
• Engineering & Production Documentation Support Facility	Moveable
• Close-In Defense Modernization/Upgrade/Overhaul Facility	Fixed
• Performance Engineering and Training Systems (PETS) Facility	Movable
• TE8000 Weapon System Test Range	Fixed
• TE125 Indoor Antenna Analyzer/Compact Range	Fixed
• Calibration Laboratory Facility	Fixed
• Soldering & Wiring Technology Facility	Movable

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

• Gun Weapon Systems Maintenance & Overhaul Support Facility	$ 56,165,000.
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	$ 9,649,000.
• Gun Weapon Systems Engineering Lab & Test Tower Facility	$ 5,512,000.
• Software Development/Test & Maintenance Facility	$ 1,300,000.
• Engineering & Production Documentation Support Facility	$ 1,596,000.
• Close-In Defense Modernization/Upgrade/Overhaul Facility	$126,339,500.
• Performance Engineering and Training Systems (PETS) Facility	$ 10,436,000.
• TE8000 Weapon System Test Range	$ 7,033,000.
• TE125 Indoor Antenna Analyzer/Compact Range	$ 2,150,000.
• Calibration Laboratory Facility	$ 3,145,323.
• Soldering & Wiring Technology Facility	$ 162,500.
TOTAL	**$223,488,323.**

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

	Weight(lb)	Cube(ft)
• Gun Weapon Systems Maintenance & Overhaul Support Facility		6,147,959
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	265,700	84,398
• Gun Weapon Systems Engineering Lab & Test Tower Facility		103,184
• Software Development/Test & Maintenance Facility	4,660	312
• Engineering & Production Documentation Support Facility	11,314	22,840
• Close-In Defense Modernization/Upgrade/Overhaul Facility		3,295,250
• Performance Engineering and Training Systems (PETS) Facility	43,785	4,263
• TE8000 Weapon System Test Range	16,000	4,900
• TE125 Indoor Antenna Analyzer/Compact Range	41,000	
• Calibration Laboratory Facility	55,000	51,600
• Soldering & Wiring Technology Facility		6,400

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

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  440 volt AC, 3-phase
  5000 psi air supply
  8000 psi hydraulic pumps

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  440 volt AC, 3-phase, 60 Hz, Type Delta, 164 Kw peak
  175 psi air at 48.7 cfm
  115 volt AC, 3-phase, 400 Hz, Type Delta

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  115 volt AC, 3-phase, 400 Hz, Type Delta
  440 volt AC, 3-phase, 60 Hz, Type Delta

- Software Development/Test & Maintenance Facility
  None

- Engineering & Production Documentation Support Facility
  None

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  90 psi air supply
  Dried and filtered air and nitrogen sources
  Water source (30 GPM at 10 PSID minimum/150 PSID maximum)

- Performance Engineering and Training Systems (PETS) Facility
  Water source (30 GPM at 10 PSID minimum/150 PSID maximum)

- TE8000 Weapon System Test Range
  440 volt AC, 3-phase, 60 Hz, 700 amps for seven test bays

- TE125 Indoor Antenna Analyzer/Compact Range
  480 volt AC, 3-phase, 60 Hz, 120 amp

- Calibration Laboratory Facility
  90 psi air supply

- Soldering & Wiring Technology Facility
  None

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

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  - Reinforced foundation for disassembly, assembly and testing pits
  - Special foundation to support transportation of heavy equipment and systems
  - Rail Service
  - 20 and 75 ton overhead crane service
  - 20,000 psi climate control chamber
  - 20 foot by 18 foot overhead door service
  - Environmental compliant painting chamber

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  - Reinforced building structures and foundations
  - Bullet proof walls and ceilings in live fire area

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  - None

- Software Development/Test & Maintenance Facility
  - None

- Engineering & Production Documentation Support Facility
  - None

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  - An adequately smooth floor for air bearing system transportation
  - Air handling vent systems required for paint booth and degreaser area
  - ESD compliant grounding RF shielded enclosure for making FM noise measurements
  - Foundation with concrete support piers for the ASRS
  - Two concrete rebar footers for TE215 measuring 4' x 8' x 18' deep for the Environmental Test area
  - Building 2 of the Pneumatic Test area must be capable of supporting the gross equipment weight in addition to two tanks weighing approximately 7,000 pounds each when empty
  - A raised computer floor for cabling and for use as an air conditioning plenum within the Production Engineering and Repair area.

- Performance Engineering and Training Systems (PETS) Facility
  - None

- TE8000 Weapon System Test Range
  - Ground rods for the antenna towers, test bays, and equipment

- TE125 Indoor Antenna Analyzer/Compact Range
  - Level foundation for range reflector and antenna positioner
  - RF shielding for console room and anechoic chamber

- Calibration Laboratory Facility
  - Vibration and magnetic isolation

- Soldering & Wiring Technology Facility

None

7. **State any environmental control requirements (i.e., temperature, humidity, air scrubbing).**

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  - Environmental compliant painting chamber
  - Climate controlled chamber
  - Ventilation system for freon degreasing operation
  - Environment containment for rexroth hydraulic pump area

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.
  - Ventilation of combustion gases in live fire area

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- Software Development/Test & Maintenance Facility
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- Engineering & Production Documentation Support Facility
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.
  - Air filtration system for CAD system

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- Performance Engineering and Training Systems (PETS) Facility
  - None

- TE8000 Weapon System Test Range
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- TE125 Indoor Antenna Analyzer/Compact Range
  - Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained.

- Calibration Laboratory Facility
  - Relative humidity of 40% +/- 20% and temperature control is dependent on the type of calibration performed.
  - Dust - 700 micron per cubic foot maximum.

- Soldering & Wiring Technology Facility
  - Venting and external vacuum system.

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

Due to previous consolidation efforts, the Gun Weapons Systems Facility at NSWC, Louisville is the only remaining comprehensive depot/engineering facility with the capability to support the DoD Commodity Group of Sea Systems Subgroup Weapons Systems (Surface). In preservation of DON readiness, NSWC, Louisville maintains required critical and unique capabilities found nowhere else in the DoD and **could only be replicated at a great cost.**

The inherently governmental function (smart-buyer) performed by this facility represents the Navy's corporate memory for NGWS/equipments and is **impractical for the private sector to assume.** This facility has been established over most of the fifty years that the facility has been a provider of goods (military) and services (engineering). The customer base of this facility includes other branches of DoD, non-DoD, and FMS customers. For example, the FMS customer base for the PHALANX CIWS security assistance program currently supports Australia, Canada, Greece, Israel, Japan, Portugal, Saudi Arabia, Taiwan, Turkey and the United Kingdom with Brazil, Egypt, New Zealand, Spain, Thailand and Venezuela in the process of obtaining systems.

The full spectrum hands-on experience in both a sponsorship role and appraisal role in support of acquisition and readiness in the functional areas of exploration, assessment, development, evaluation, production, operation and maintenance provides a unique synergy for NGWS/equipments support.

Undoubtedly, this facility's most important resource is its people which cumulatively represents thousands of man-years of experience. **The stability of it's work force provides the continuity necessary to perform the inherently governmental roles of sponsorship and appraisal required for life cycle support of NGWS/equipments.** Whether developing, modernizing, upgrading, maintaining or producing major system prototypes or reactivating "Old Warriors" (battleships) this facility has been able to maintain a core technological base to respond to any operational fleet requirement. **Operational readiness would be impacted if this facility was not maintained organically.**

This unique integration of engineering/industrial capability **provides a full spectrum manufacturing, repair and systems overhaul capability for which no other source exists, for products where no interest exists in the private sector and for rapid response situations to fleet safety requirements.**

Loss of this facility would result in an irreversible loss of the Navy's corporate memory, a DON imperative to maintain a repository of technical knowledge for critical mission essential Weapons Systems/equipments supported by this facility and the loss of an inherently governmental role, that of being a smart buyer. Additionally, the Navy's ability to reconstitute resources to address future threats would be severely limited.

Attributes of the location of this facility is an affordable labor market (prevailing labor rates lower than national average), synergistic full spectrum engineering and industrial facility; close proximity to major air, rail, river and interstate transportation routes; and readily available labor source from nearby colleges and universities (e.g. University of Louisville). The affordability attribute and location in a low cost of living area within a major metropolitan area, provides an environment necessary to sustain the stability for maintaining a "smart buyer" capability over the life cycle of a weapon system. Furthermore, this environment attracts and retains a highly technical, quality and stable workforce.

One of the greatest benefits to this facility's location in the central midwest is that it provides a consolidated "full spectrum" engineering and industrial activity that is capable of supporting the Atlantic, Pacific and Gulf Coast Activities. **This eliminates the need to replicate the Naval Gun Weapons Systems capability (i.e. an affordable one stop shop for our customers).**

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

The Gun Weapons Systems Facility began construction in 1941. Original machinery was transported from the old Gun Factory in Washington, D. C. Construction continued through the 1940's and 1950's. In 1985 this facility was expanded through the purchase of adjacent properties to support the addition of the PHALANX CIWS depot capability. Specific dates for the constructed/purchased and last upgrade of the major assets of this facility are as follows:

	Constructed/ Purchased	Last Upgrade
• Gun Weapon Systems Maintenance & Overhaul Support Facility	1967	1993
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	1960	1993
• Gun Weapon Systems Engineering Lab & Test Tower Facility	1971	1990
• Software Development/Test & Maintenance Facility	1991	1993
• Engineering & Production Documentation Support Facility	1962	1992
• Close-In Defense Modernization/Upgrade/Overhaul Facility	1985	[illegible]
• Performance Engineering and Training Systems (PETS) Facility	1981	1993
• TE8000 Weapon System Test Range	1986	1989
• TE125 Indoor Antenna Analyzer/Compact Range	1986	1992
• Calibration Laboratory Facility	?	1992
• Soldering & Wiring Technology Facility	?	1993

10. List the functional support areas that this facility/equipment support.

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  - 2.1 Gun Systems
- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  - 2.1 Gun Systems
- Gun Weapon Systems Engineering Lab & Test Tower Facility
  - 2.1 Gun Systems
- Software Development/Test & Maintenance Facility
  - 2.1 Gun Systems
- [illegible] Production Documentation Support Facility
- Clo[illegible]nization/Upgrade/Overhaul Facility
  - 2.1 [illegible]
  - 2.8 Launchers
- Performance Engineering and Training Systems (PETS) Facility
  - 2.1 Gun Systems

- TE8000 Weapon System Test Range
  2.1 Gun Systems

10. (Con't)

- TE125 Indoor Antenna Analyzer/Compact Range
  2.1 Gun Systems
  2.8 Launchers

- Calibration Laboratory Facility
  2.1 Gun Systems
  2.8 Launchers

- Soldering & Wiring Technology Facility
  2.1 Gun Systems
  2.8 Launchers

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

The average utilization is based on direct workload controlled by the Gun Weapon Systems Facility minus that direct workload performed within other NSWC Louisville facilities. Average equals 769 workyears.

12. Provide the projected utilization data out to FY 1997.

Projected utilization (direct workload controlled by the Gun Weapon Systems Facility) should remained stabled through FY97 based on current readiness requirements. Utilization projection is 769 workyears.

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

• Gun Weapon Systems Maintenance & Overhaul Support Facility	157
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	29
• Gun Weapon Systems Engineering Lab & Test Tower Facility	8
• Software Development/Test & Maintenance Facility	16
• Engineering & Production Documentation Support Facility	8
• Close-In Defense Modernization/Upgrade/Overhaul Facility	225
• Performance Engineering and Training Systems (PETS) Facility	4
• TE8000 Weapon System Test Range	28
• TE125 Indoor Antenna Analyzer/Compact Range	3
• Calibration Laboratory Facility	19
• Soldering & Wiring Technology Facility	1

* Note - These figures do not include the following type of personal: clerical, administrative, engineering, etc.

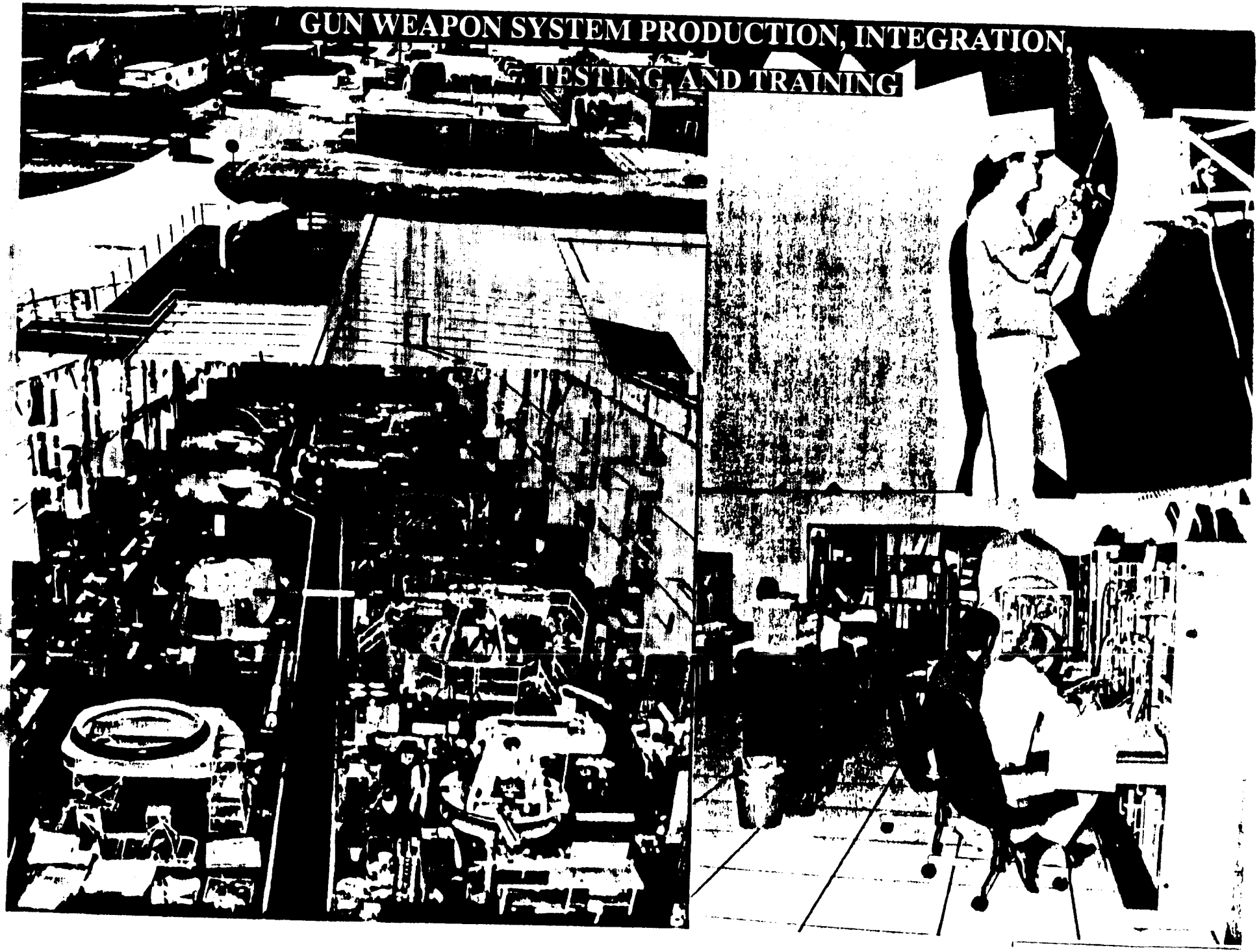
14. What is the approximate number of personnel needed to maintain the equipment?

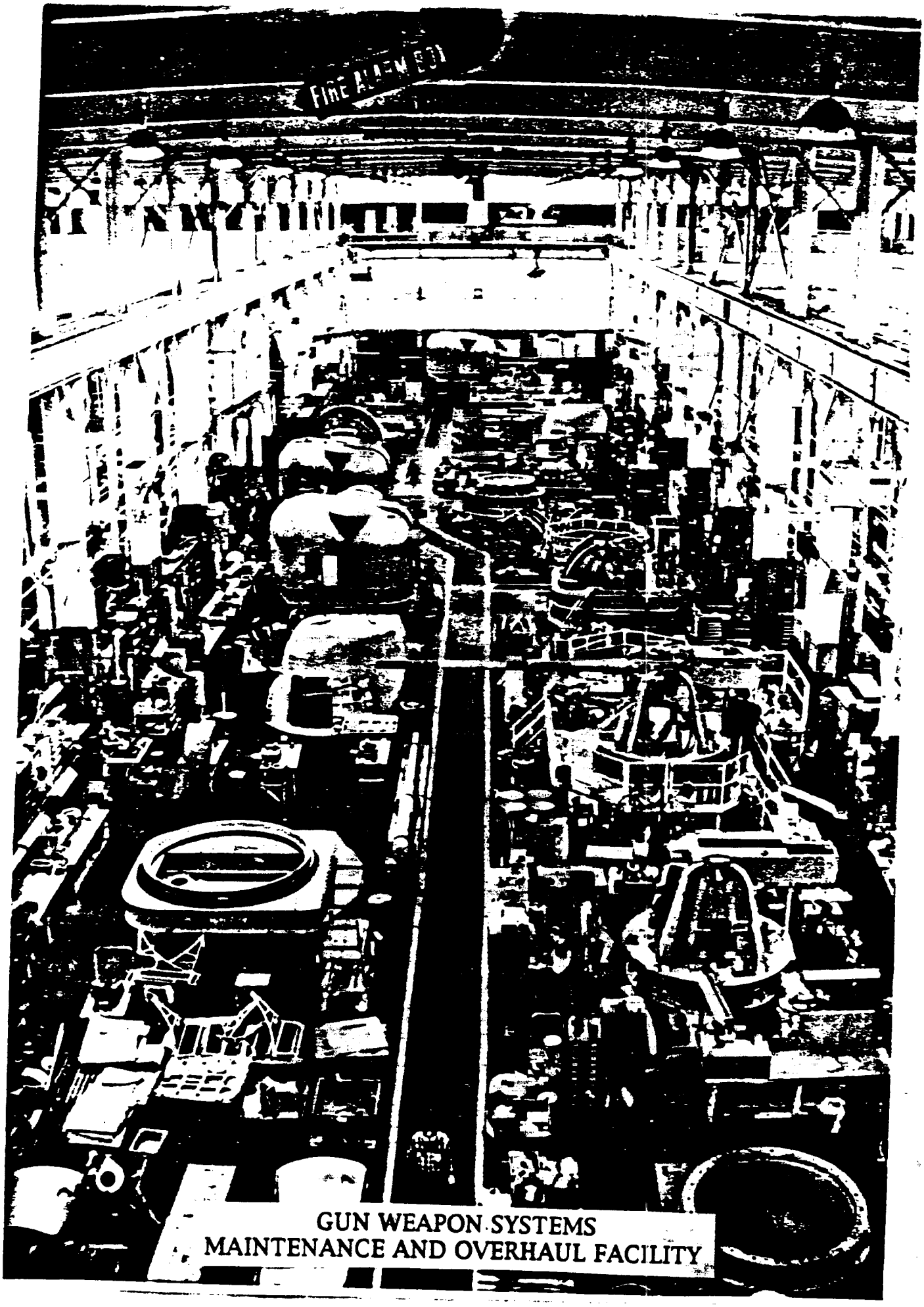
• Gun Weapon Systems Maintenance & Overhaul Support Facility	13
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	5
• Gun Weapon Systems Engineering Lab & Test Tower Facility	2
• Software Development/Test & Maintenance Facility	3
• Engineering & Production Documentation Support Facility	2
• Close-In Defense Modernization/Upgrade/Overhaul Facility	3
• Performance Engineering and Training Systems (PETS) Facility	3
• TE8000 Weapon System Test Range	2
• TE125 Indoor Antenna Analyzer/Compact Range	1
• Calibration Laboratory Facility	1
• Soldering & Wiring Technology Facility	0

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

• Gun Weapon System Production, Integration, Testing and Training	See attachment A
• Gun Weapon Systems Maintenance & Overhaul Support Facility	See attachment B
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	See attachment C
• Gun Weapon Systems Engineering Lab & Test Tower Facility	See attachment D
• Software Development/Test & Maintenance Facility	See attachment E
• Engineering & Production Documentation Support Facility	See attachment F
• Close-In Defense Modernization/Upgrade/Overhaul Facility	See attachment G
• Performance Engineering and Training Systems (PETS) Facility	See attachment H
• TE8000 Weapon System Test Range	See attachment I
• TE125 Indoor Antenna Analyzer/Compact Range	See attachment J
• Calibration Laboratory Facility	See attachment K
• Soldering & Wiring Technology Facility	See attachment L

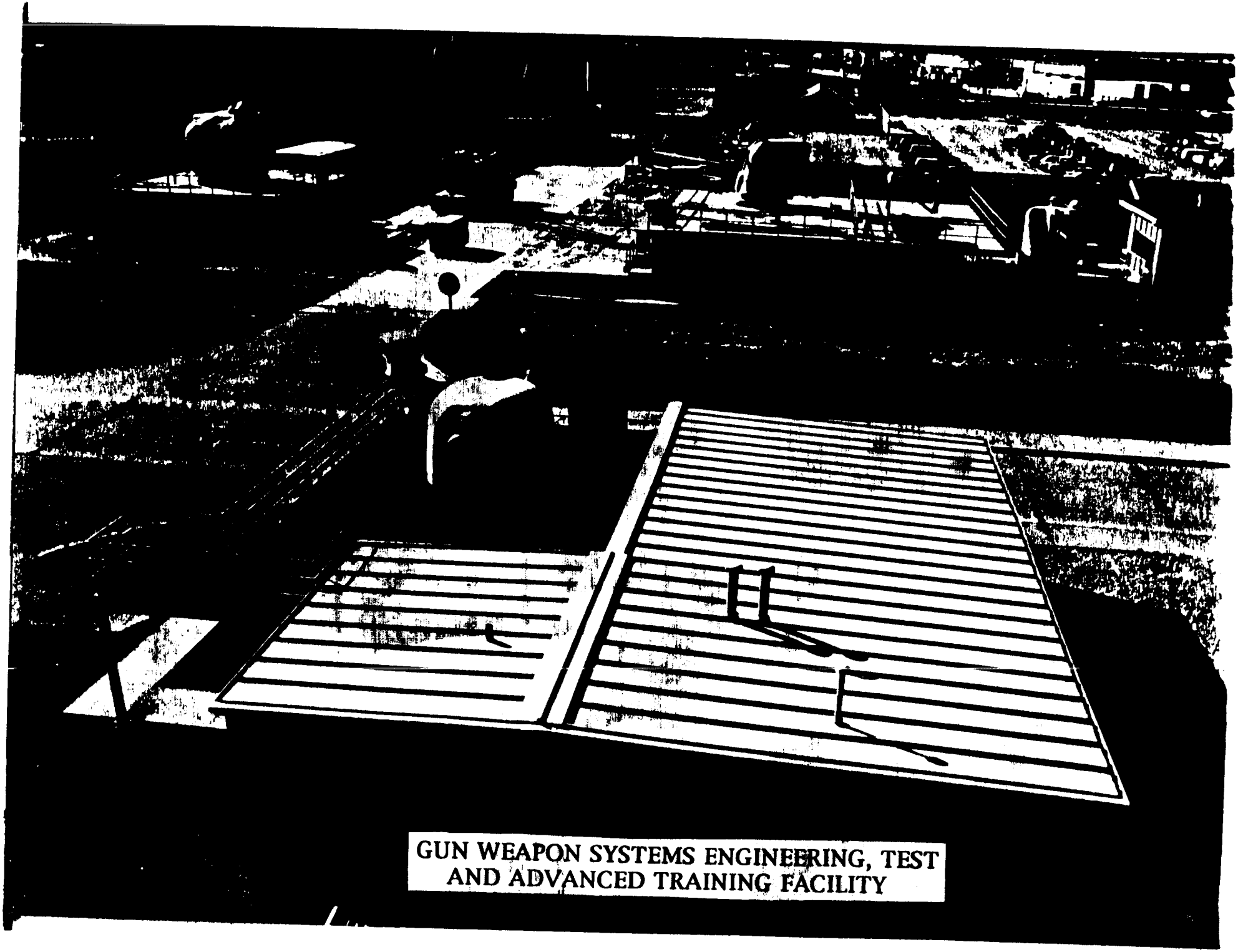
GUN WEAPON SYSTEM PRODUCTION, INTEGRATION, TESTING AND TRAINING



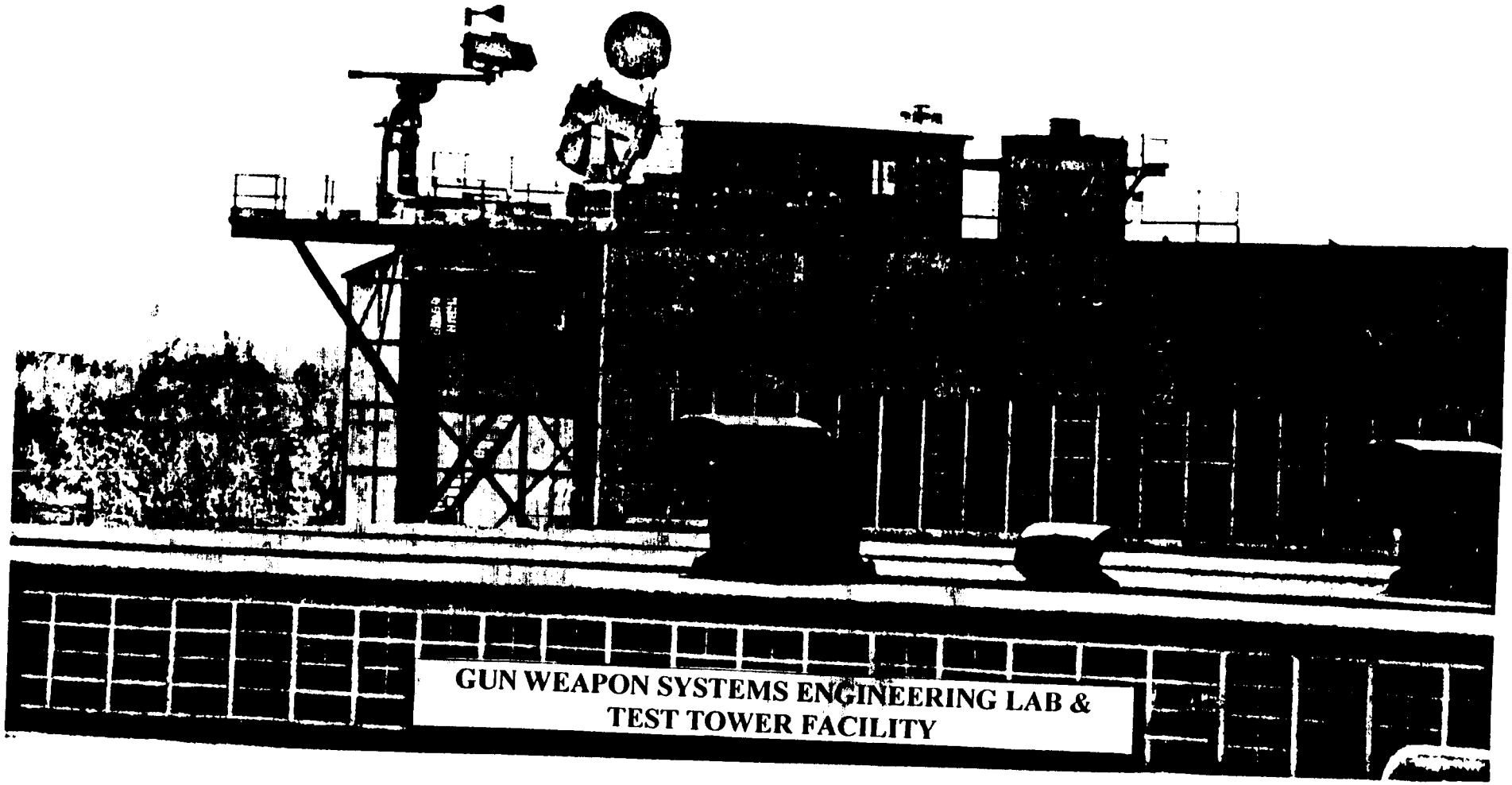


GUN WEAPON SYSTEMS
MAINTENANCE AND OVERHAUL FACILITY

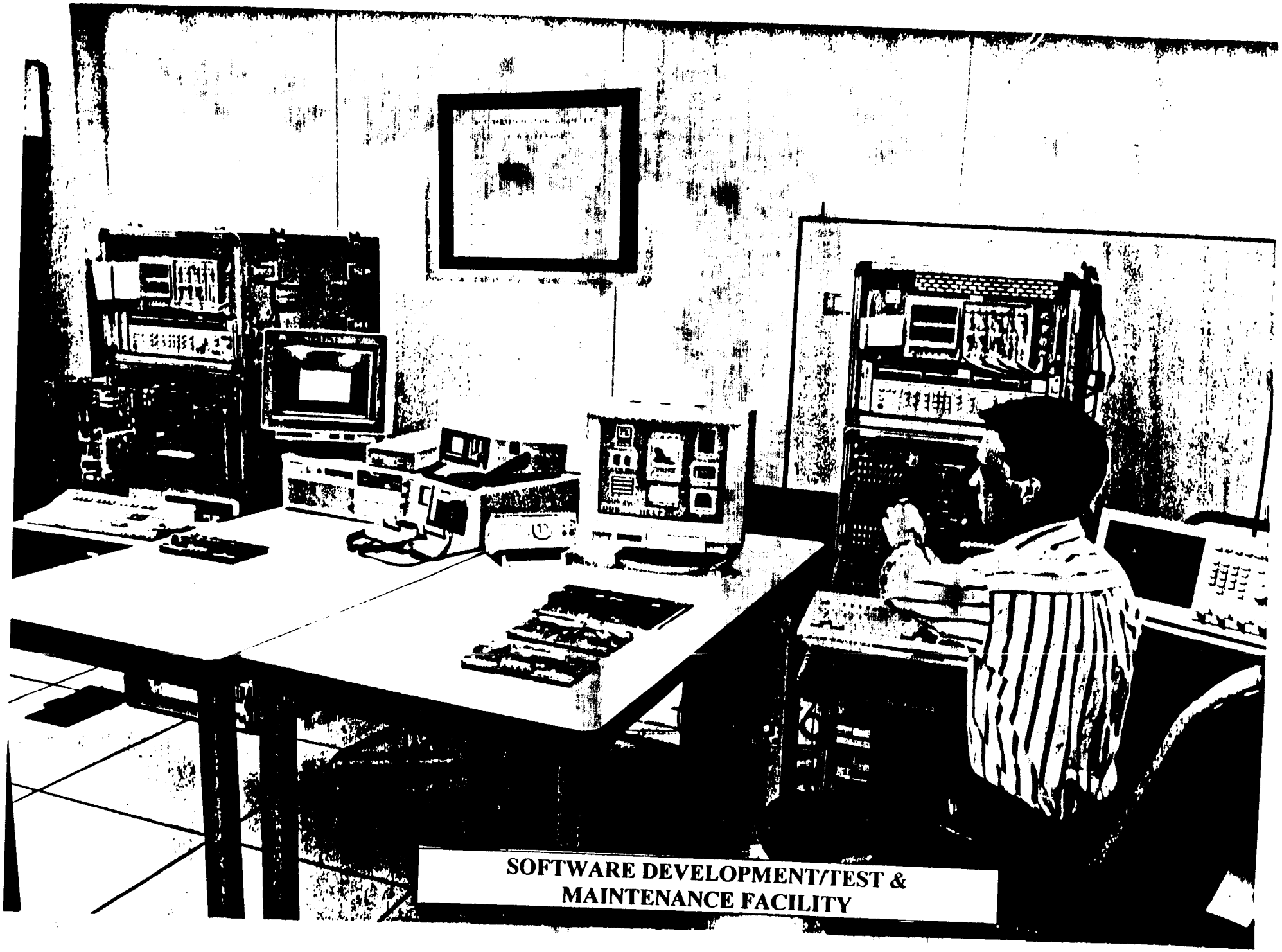
ATTACHMENT B



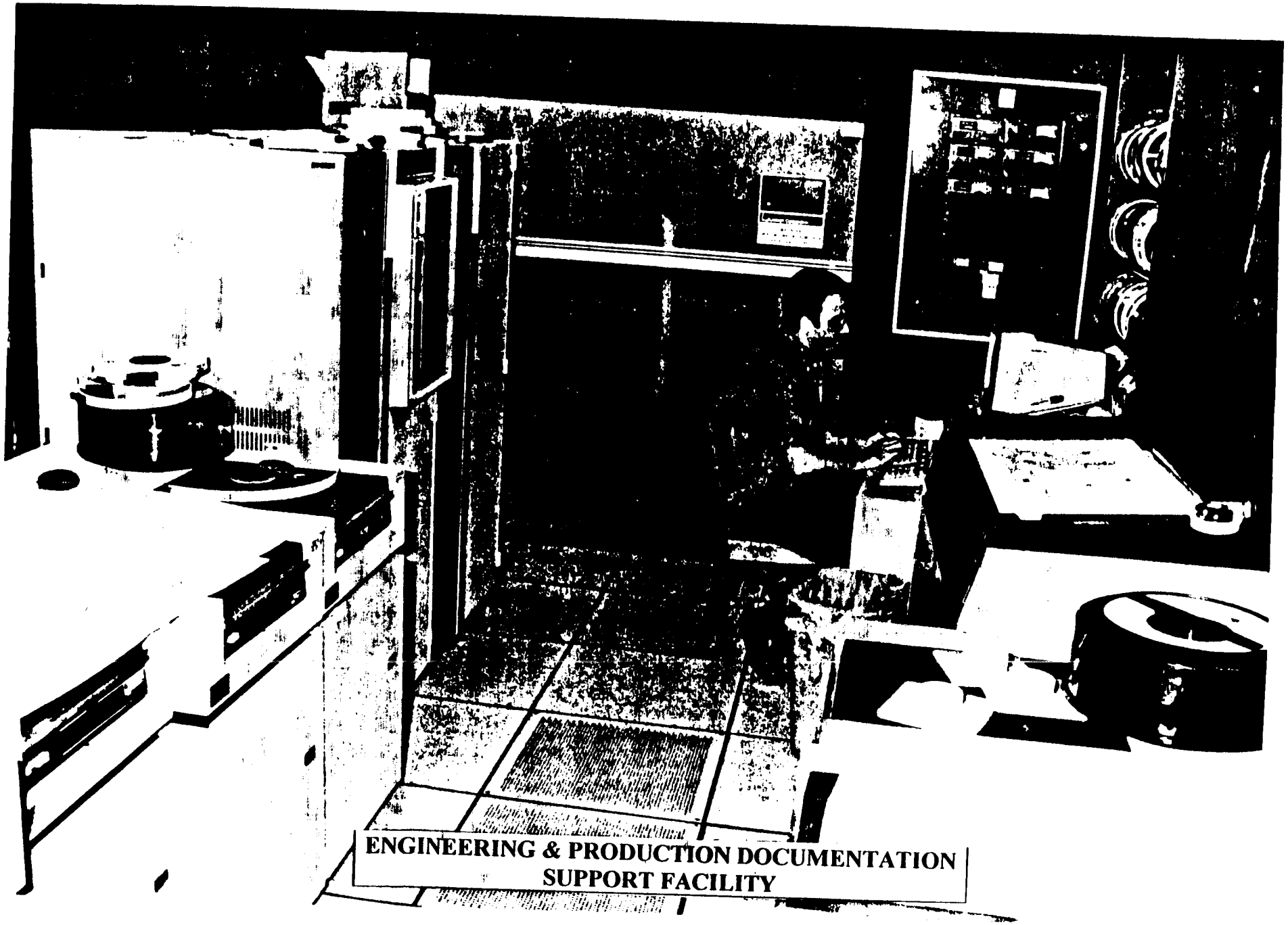
GUN WEAPON SYSTEMS ENGINEERING, TEST
AND ADVANCED TRAINING FACILITY



ATTACHMENT B



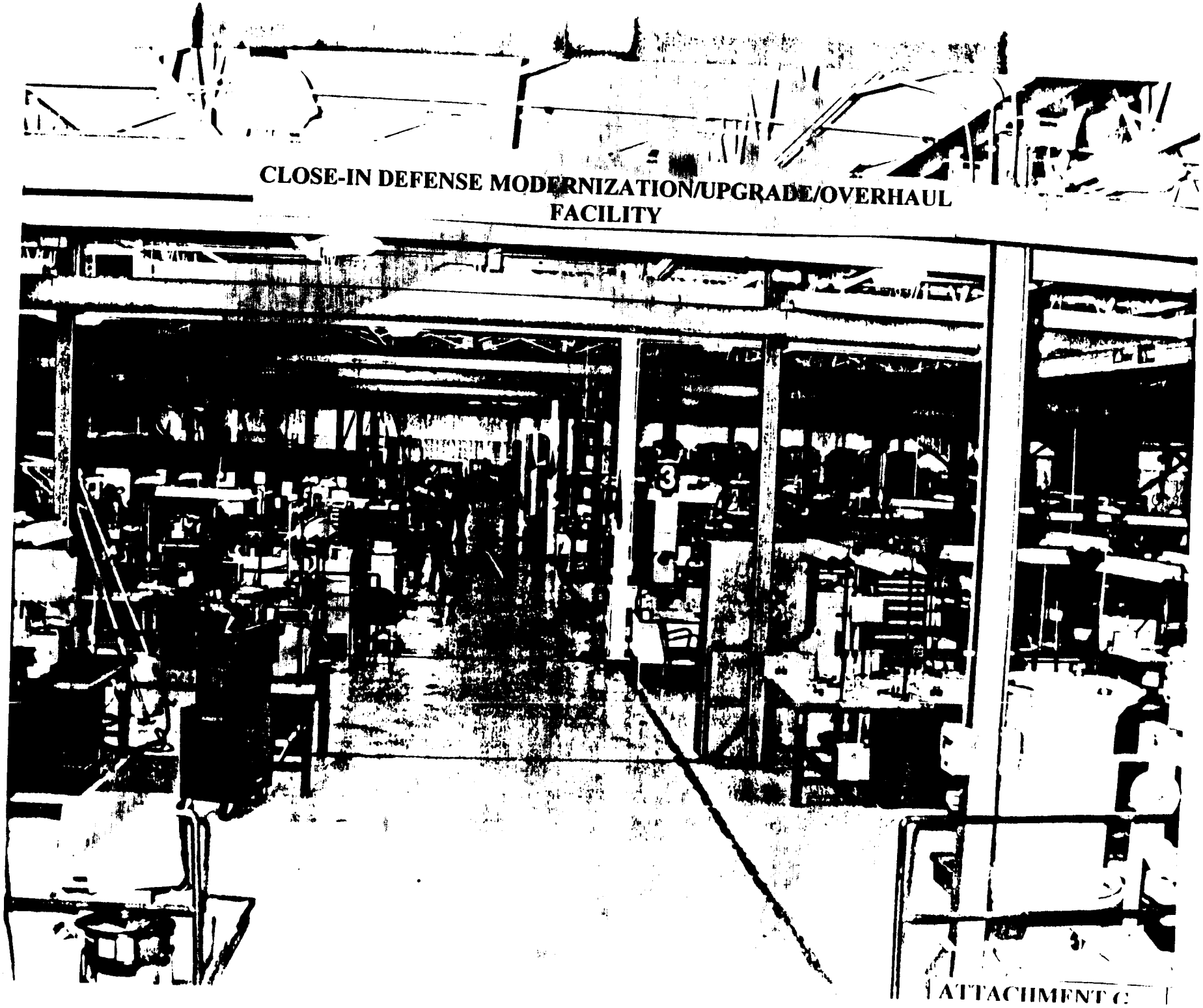
SOFTWARE DEVELOPMENT/TEST &
MAINTENANCE FACILITY



ENGINEERING & PRODUCTION DOCUMENTATION
SUPPORT FACILITY

ATTACHMENT 5

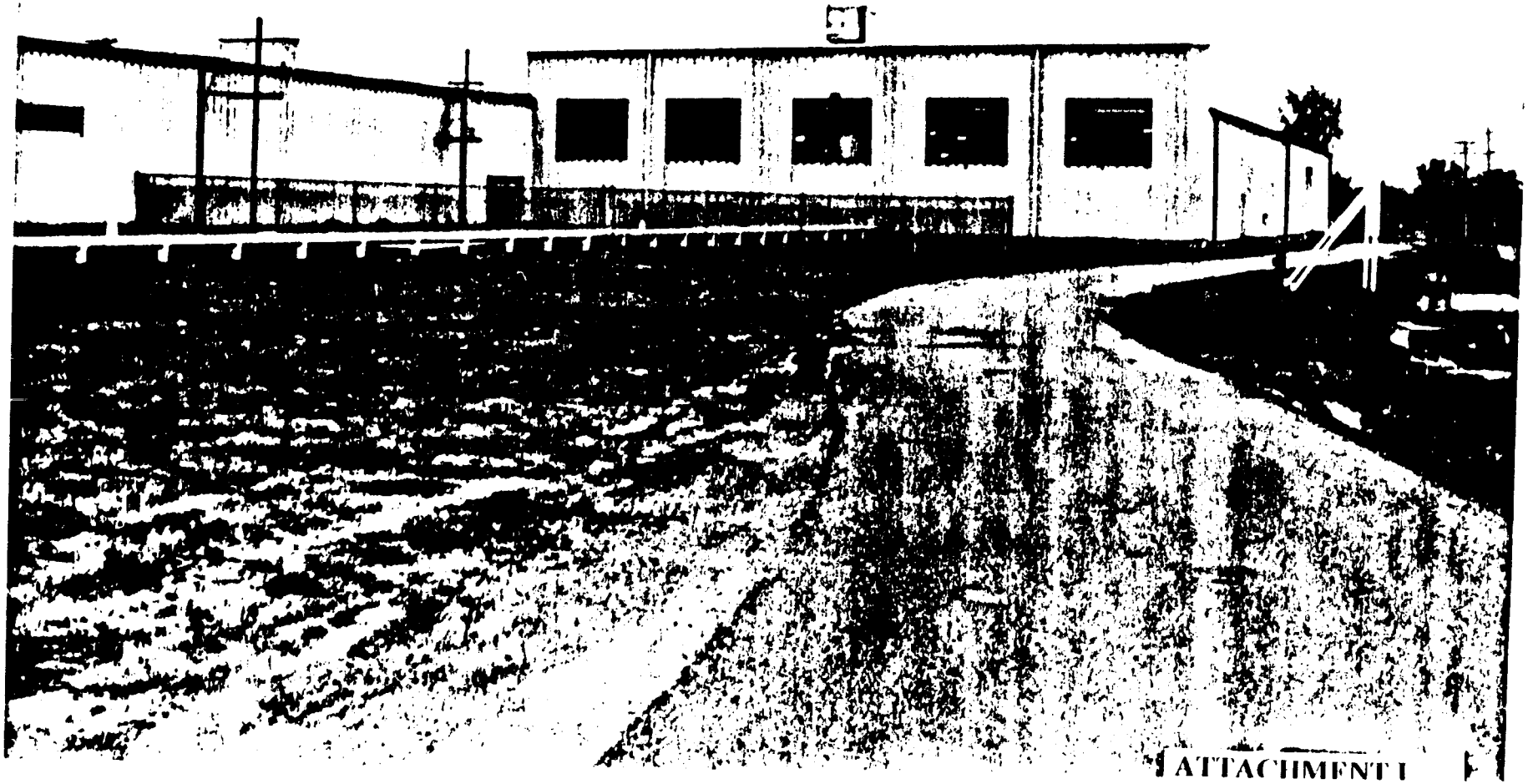
CLOSE-IN DEFENSE MODERNIZATION/UPGRADE/OVERHAUL FACILITY



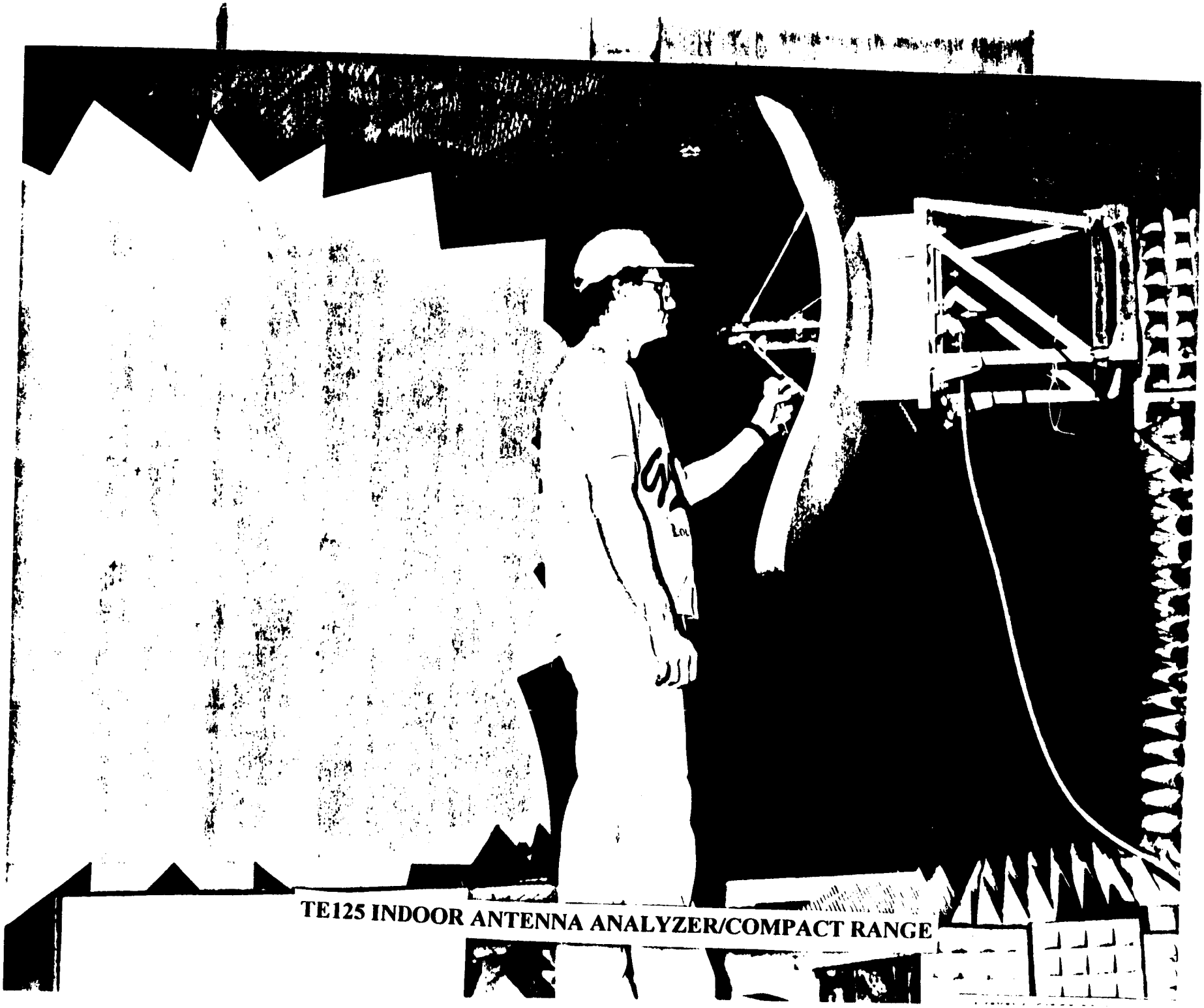
ATTACHMENT C

ATTACHMENT H

TE8000 WEAPON SYSTEM TEST RANGE



ATTACHMENT 1



TE125 INDOOR ANTENNA ANALYZER/COMPACT RANGE

CALIBRATION LABORATORY FACILITY

ATTACHMENT 17

ATTACHMENT L

SPECIAL FACILITIES AND EQUIPMENT
FACILITIES/EQUIPMENT CAPABILITY FORM

Technical Center Site	NSWC, Louisville
Facility/Equipment Nomenclature or Title	Specialized Mechanical Technology and Manufacturing/Repair Facility (Tri-Service RDT&E, Engineering, Manufacturing/Repair and Fleet Support)

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

This facility is a technical and industrial complex with seven primary purposes. This facility is recognized as a leader in and outside of DoD capable of providing a full array of products and services in all aspects of research and development, engineering, after market prototype, modernization and/or repair (extending the useful life), manufacture, and fleet support for virtually any mechanical system, subsystem, component or item used or needed by DoD. This facility acts as a principal agent in maintaining and improving the industrial base. This facility is key to the industrial base and it's future development as well as key to surge/mobilization and reconsititution with the largest number of computer numerically controlled (state-of-the-art) machines in the Navy and with engineering and industrial processes of over fifty years along with the most recent advances archived for rapid recall. Joint Mission Areas extensively supported include: Joint Strike, Joint Littoral, Forward Presence, Special Programs, Fleet/Expeditionary Force, Life Support and Readiness, Support and Infrastructure.

The seven primary purposes are:

1) Provide concurrent R&D, engineering and transition to production, provide full life cycle technical support.

2) Provide rapid prototype/limited production for virtually any mechanical system, component or item used or needed by DoD including extensive national crisis response by rapidly manufacturing mission critical parts.

3) Serve as a leading DoD and Navy testbed for developing, verifying and applying new/emerging technology to all life cycle phases (R&D, rapid prototype, reverse engineering, production processes, modernization, upgrade, overhaul, repair, and manufacturing and transferring these technologies and processes to participating public and private concerns. Make the public and private sector capable/more capable of making small, economic quantities of mechanical parts on demand (a major Tri-Service and DoD initiative). This is to ensure the industrial base needed now and in the future exists.

4) Provide and maintain DoD last/only source capability for difficult to procure, modernize, upgrade, overhaul, repair and manufacture mechanical systems, components and items, particularly for the Joint Mission and Navy Mission critical items (including extensive national crisis response).

5) Provide smart buyer expertise through reverse engineering, make/buy analyses, and quoting or reviewing quotes throughout DoD.

6) Provide significant and integral support to all other Technical Capabilities at NSWC, Louisville in the above areas and in providing best value mechanical systems, components and items especially to the Naval Weapons Systems Commodity Group.

7) Serve as one of two original DoD and one original Navy designated Flexible Computer Integrated Manufacturing (FCIM) Facilities for mechanical parts.

Other purposes include involvement in Joint and Dual-use efforts including involvement in or interface with: the Joint Engineering Drawing Management Information Control Systems (JEDMICS) Program, the Joint Continuous Acquisition Life Cycle Support (CALS) Program (including developing capabilities to transfer CALS to the deckplate, i.e., a ship), the Joint Best Manufacturing Practices Program (Public/Private), a Cooperative Research and Development Agreement (CRADA) which is a public/private partnership through the NSWC, Louisville Productivity Center - using Station facilities, equipment and expertise to teach private industry productivity processes, a rapid prototype consortium between the public sector, private industry and academia, and a virtual factory agreement with Tinker Air Force Base. This facility and its' personnel are also critical to Defense Conversion through the lead role in standardizing and manufacturing/repair engineering data and processes used internationally both publicly and privately, and will be critical to the reconstitution of the private sector. This facility has the only PDES (Product Data Exchange Specification using the international Standard for The Exchange of Product model data) generation facility for mechanical parts in the Navy - vital to making the public and private sectors capable of making small, economic quantities of parts on demand. This facility uses MRPII and is the MRPII test site for a factory shop floor control system (FACTory - trademark) intended for DoD-wide and private exportation which is planned to be sponsored by Joint (Tri-Service) Center for Flexible Computer Integrated Manufacturing.

Examples of the above purposes are provided to better illustrate the vast full spectrum capabilities:

- Advanced R&D and prototyping for mechanical parts for all of DoD is as follows: conceived the Mine Rake for the Marine Corps Amphibious Assault Vehicle. Developed, designed, prototyped, tested/evaluated it, completed producibility and are providing technical support.

- Rapid response prototype and manufacture for DoD. Quick (60 vice 300 days) provider of difficult or otherwise impossible to make or contract parts for the Navy, Army, Air Force, DLA, Foreign Military Sales and others. Example, for Desert Storm/Gulf War manufactured 300 flight critical Army helicopter parts in less than 60 days - less time than to award a contract if a commercial vendor existed. Prototyped the alteration and performed the alteration of AAV chassis'- extending the useful life by 10 years.

- Last/only source where the capability does not exist elsewhere or is not practical for the private sector. The only source for standard missile rocket motor casings, the only viable gear manufacturer in DoD, the only naval gun barrel manufacturing facility in DoD.

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

Fixed

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

Facilities/Buildings Replacement Value:

$100.4M (6 Adjacent Major Production Buildings)
Equipment Replacement Value:
$256.24M

This facility may have a more unique and comprehensive collection and range of assets and equipment for prototyping, modernization, upgrade, overhaul, repair and manufacture of mechanical systems, subsystems, components, items/parts than any activity in DoD making this facility truly full spectrum (within and across R&D, engineering and depot manufacturing/repair) and self-contained. This collection of equipment, assets and engineering and production personnel which are so interconnected create unequalled synergy in the full spectrum support for mechanical systems, subsystems, components and items/parts. This facility and activity have full spectrum machining, as many do, but also have extensive R&D and engineering facilities as well as all other production facilities and equipment and skills to perform necessary prototyping, modernization, upgrad, overhual, repair or manufacture for virtually and mechanical system, subsystem, component or item/part (e.g., state-of-the-art plating shop, heat treat, machining, fabrication, laser cutting, etc.). The Product Data Exchange Specification using Standard Exchange for Product Model Data (STEP) PDES generating facility is the only one in the Navy for mechanical parts. PDES is critical to the further standardization in the public and private sectors and national/international standardization and automation of engineering data being transferrable to any manufacturing source and Computer Numerically Controlled (state-of-the-art) machine to make or repair the required part. On the leading edge of the DoD initiative for electronic interfacing of reverse engineering a part (creating an electronic part drawing usable for manufacturing, creating an electronic quote, passing the drawing, programming a computer numerically controlled machine and making the part. Have the only Parts Digitization System (PARDS) in the Navy and in combination with a coordinate measuring machine have the most state-of-the-art reverse engineering capability in DoD.

Administrative offices next to the shop floor house concept engineering, full spectrum product engineering, including reverse engineering, producibility, computer programming for the largest number of computer numerically controlled machines in the Navy as well as an FCIM/RAMP office working to increase the integration between all these disciplines for internal use and exportation.

Laboratories include a chemical lab, optical lab, full spectrum capability in mechanical parts development, test and evaluation with a metallurgical lab, welding lab, and level III (nationally recognized) non-destructive testing lab, and X-ray lab.
Maintenance and production areas include a vast, full spectrum collection of assets and equipment capable of prototyping, modernization, updgrade, overhual, repair and manufacture for virtually any mechanical system, subsystem, component or item/part. This facility includes the only standard missile rocket motor casing manufacturing facility and expertise in public and private industry; the only viable gear cell manufacturer in DoD (making gears from 1/4" to over 10'); the only naval gun barrel manufacturing capability in the Navy. This facility has a state-of-the-art production maintenance system MRPII which is scheduled for use as a prototype for DoD in conjunction with a shop floor control system to dramatically reduce the time and cost of making or repairing a part - to be exported to other public and private facilities. The plating shop and industrial waste water treatment facility are one of the largest ($30 million), newest (one year old) and best in DoD; capable of full spectrum plating; environmentally compliant and state-of-the-art. All the capabilities described within this facility are integral/interdependent and create unparalleled synergy.

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

Facilities:
565,511 square feet (6 Adjacent Major Production Buildings)

Equipment:
8,226 tons (largest single piece of equipage is 300 tons)
987,245 cubic feet

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

a. Electric Power, other than normal.
1) Over 500 various machine tools each have individual disconnects at the machine and one at the main disconnnect to meet OSHA requirements.
2) 120 Volts Single Phase.
3) 208, 240, 480 Volts Three Phase 4) +/- 250 Volts D. C. for overhead Cranes. 102 cranes ranging from 875 ton capacity bridge cranes inside 6 major production buildings to 1/8 ton capacity jig cranes.

b. Industrial Waste Water Treatment Facility.
6 paint booths, dye penetrant wash tanks and a flame spray booth all strategically located throughout 6 major production buildings are routed to the central Industrial Waste Water Treatment Facility to be treated and purified of heavy metals, dye and paint.

c. Gases.
500 gallon bulk tanks for Nitrogen, Argon and Oxygen are located throughout the facility for welding, plasma/laser cutting, fuel the 26 heat treat furnaces and for heat treat processes, flame spray process and numerous other industrial operations. The largest furnaces can accomodate a boxcar or are 20' tall, with four 30' deep pits beneath them with rails to maneuver over each pit.

d. Steam
Significant amount of steam are required for heat treating, Industrial Waste Water Treatment Facility

e. Compressed Air, 90 psi.
Compressed air is used throughout the prodcution ares for cleaning, machining processes, inspection and in the operation of several machines.

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

Special budget requirements needed to modify facilities and procure special equipment to accommodate manufacturing equipment and processes currently in place at NAVSURFWARCEN Crane Division Louisville.

a. Fabrication And Welding Facility Requirements:

* Reinforced concrete pads and foundations to absorb and dampen machine vibrations in utilization of large presses and shears.

* Large capacity overhead bridge cranes to facilitate movement of materials and equipment.

* Outdoor industrial gas storage facilities with service lines into building to supply welding and heat treat equipment.

* Access lines for commercial suppliers to replenish gases via tank truck to industrial gas storage tanks.

* Electrical service modifications requiring special transformers, voltage conversion, and circuit isolation for welding equipment. (Equipment Supplier Requirement)

* Visual and thermal shielding for welding equipment. (OSHA Requirement)

* Work area ventilation equipment necessary to evacuate hazardous fumes generated from special welding processes. (OSHA Requirement)

* Visual shielding, spark and slag catch basins, and high frequency noise reduction equipment for gas and plasma arc cutting processes. (OSHA Requirement)

* Yearly medical physicals to monitor employees who are exposed to hazardous fumes from welding processes. (Approximate cost $16K per year)

b. **Gear Facility Requirements:**

* Grinding wheels of different sizes, compositions, and grits.

* Grinding wheel configuration modification equipment and accessories.

* Gear checking and verification instruments.

* Flat lapped granite inspection tables.

* Grinding slag and dust evacuation equipment.

* Special configuration gear and tooth forming hobs.

* Gear grinding wheel storage cabinets and racks.

* Overhead bridge cranes to facilitate movement of materials and equipment.

* Re-centering and surface lapping equipment.

c. **Light Machining Facility Requirements:**

* Specially reinforced concrete foundations installed to machine tool manufacturer's specifications to support and isolate from external vibration, equipment of modular design and construction.

* Custom catch pans installed under machine tools to collect hydraulic fluid leakage, cutting oils, and water soluble coolant overflows.

* Large capacity overhead bridge cranes to facilitate movement of materials and equipment.

* Electrical service modifications to meet individual machine tool requirements per manufacturer's specifications including separate circuits, voltage converters, isolation transformers, and special grounding requirements.

* Compressed air supply system of adequate size to operate pneumatic machine tool components and air operated hand tools.

* Water utilities with supply lines to machine tools with water chilled oil coolers.

* Machine accessories and tool storage cabinets.

* Boxes, tubs, material transport pallets, and storage racks.

* Material handling and transportation equipment; forklifts, die carts, and pallet transporter.

* Metal shavings and chip evacuation equipment.

* Individual machine post and column cranes for material and part handling purposes.

* Coolant filtration system for grinding equipment.

d. **Plating Facility Requirements:**

* Specially constructed overflow catch basin foundations for plating solution tanks.

* EPA approved steam heated, down draft, air scrubber, filtration, and ventilation system.

* EPA approved waste water treatment equipment to neutralize processing chemicals and extract heavy metals.

* Outdoor large capacity storage tanks for holding excess treated waste water.

* Electrical service modification requiring special transformers and voltage conversion for plating equipment.

* Individual storage area to isolate acids, cyanide, and caustic materials.

* Fire alarm and sprinkler system.

* Large capacity outdoor storage tanks for trichloroethane, hydrochloric and sulfuric acid.

* Emergency replacement chemical tank liners.

* Part degreasing tanks.

* Employee protective equipment; gloves, face shields, aprons, eye wash equipment, and shower facilities.

e. **Rocket Motor Facility Requirements:**

* Reinforced concrete pad and pit foundations constructed to machine tool manufacturer's specifications to allow installation of modular-type constructed machines.

* Reinforced concrete pit foundation specially constructed for traveling gantry furnace.

* Electrical service modifications requiring special transformers and voltage conversion for heat treat furnaces.

* Electrical service modifications for electron beam welding machines per equipment manufacture specifications.

* Work area ventilation equipment necessary to evacuate hazardous fumes from heat treat and welding processes.

* Outdoor new and used heat treat quench oil storage facility with concrete, leak catch basin.

* Motor case painting facility with special ventilation and atmospheric control equipment.

* Paint storage and handling facility to accommodate polymers, solvents, epoxy resins and other materials used in motor case painting process. (OSHA requirements)

* Large capacity overhead bridge cranes to facilitate movement of materials and heat treat equipment.

* Shielding and radiation monitoring equipment used in conjunction with x-ray verification of rocket motor welds.

* Metallurgical composition and tensile test verification lab facility.

* Environmentally controlled inspection facility.

* Outdoor industrial gas storage facilities with service lines to supply welding and heat treat equipment.

* Access lines for commercial suppliers to replenish gases via tank truck to industrial gas storage tanks.

* Special visual and thermal shielding for heat treatment and welding equipment.

* Motor case hydrostatic pressure test equipment with explosion proof shielding.

* Periodic qualification and certification and training of welding personnel. (Process Requirement)

* Yearly medical physicals to monitor employees who are exposed to hazardous fumes from heat treat and welding process.

f. Valve-Ball Facility Requirements:

* Fire extinguishing equipment for controlling combustible materials and epoxy solvents.

* Ventilation and respirator systems for employees handling powdered epoxy coating materials.

* Periodic medical physicals to monitor employees exposed to hazardous materials used in valve-ball epoxy coating process.

* Certification and training of employees using respirator equipment. (OSHA requirement)

* Overhead cranes and special lifting fixtures required for lifting heavy valve-balls in various processing areas.

* Special lapping compounds and cleaning solution requirements.

* Specially built epoxy hardening ovens.

g. Heavy Machining And Turning Facility Requirements:

* Specially reinforced concrete foundations installed to machine tool manufacturer's specifications to isolate from external vibration, large equipment of cast modular construction.

* Large capacity overhead bridge cranes to facilitate movement of materials and equipment.

* Electrical service sufficient to supply high horse power motors for heavy equipment which require separate circuit, voltage stepping transformers, and transformers for AC-DC conversion.

* Compressed air supply system of adequate size to operate pneumatic machine tool components and air operated hand tools.

* Water utilities with supply lines to machine tools with water chilled oil coolers.

* Machine accessories and tool storage cabinets.

* Boxes, tubs, material transport pallets, and storage racks.

* Material handling and transportation equipment; forklifts, die carts, and pallet transporter.

* Metal shavings and chip evacuation equipment.

* Individual machine post and column cranes for material and part handling purposes.

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

This is an industrial facility which performs a wide range of overhaul and new manufacture operations. These industrial operations primarily include: welding and fabrication, machining, heat treating, abrasive blasting, painting and coating, electroplating and industrial waste waer treatment. These operations are subject to environmental controls and constraints. All operations meet or exceed air and water standards (local, state, and federal) and permits have been issued by local regulatory agencies.

These operations produce hazardous mists, vapors, dusts, noise, and light. Ventilation systems, including open duct, dust collectors, and wet and dry scrubbers, remove or reduce many of these pollutants. Shileds, guards and filters provide protection against weld flash and other hazards.

Personal protective equipment, such as ear plugs and muffs, safety glasses, oggles and face masks, breathing masks (dust, mist filters and full fresh air respirators), glover, boots, shoes, aprons, and coveralls, is provided for employees, as appropriate.

Temperature and/or humidity controlled areas include: chemical labs, Non-Destructive Test film processing room, First Article Test area and the calibration labs.

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

This facility/equipment would be impossible to replicate; only a small portion of this facility could be relocated, yet has been proven to be impractical and cost prohibitive.

This facility/activity is a leading (world class) technical and industrial center. This facility is key to the industrial base and it's future development (a major DoD initiative). This facility is a DoD cornerstone of the industrial base and last of its kind facility (public or private). No other Naval and possible DoD facility comes close to the quantity/quality and breadth/depth of capabilities, expertise,

equipment, and facilities in R&D, engineering, modernization, upgrade, overhaul/repair and manufacturing of mechanical systems, subsystems, components and parts. There are over 1,000 machines in this facility including the largest number of state-of-the-art machines (Computer Numerically Controlled - CNC) machines in the Navy as well as hundreds of one-of-a-kind machines still required to perform the Navy mission. Several machines weigh several hundred tons and are still required to perform overhaul of major weapon systems. These machines are also quite suitable to the overhaul of combat vehicles and virtually any other heavy to light mechanical system, subsystem, component or part. This facility is self-contained, more comprehensive than any other in the Navy for the type of work performed. This collection of equipment is effectively utilized through the necessary years of R&D, engineering and journeyman trade skills. Significant synergy is realized through this full spectrum of facilities, equipment and skills. The work performed in this facility has progressive operations, if any of the machines were removed it would take away from the ability to perform the task which is integral to performing depot maintenance for Naval Weapons Systems (the last activity fulfilling this role). This facility is the springboard for the public and private sector to manufacture or repair small, economic numbers of spares on demand in critical DoD initiative to drastically reducing cost and lead times. Advanced R&D and prototyping are impacted significantly. This facility serves as the Navy and a DoD testbed for developing, verifying and applying new technology and processes in all phases of product engineering (including reverse engineering) for modernization, upgrade, overhaul/repair and manufacture of mechanical systems, subsystems, components, and spare parts and deploying these technologies and processes to other public and private concerns.

The Navy could not perform it's mission.

The Navy could not fulfill the role of depot maintenance for Naval Weapons Systems. NSWC, Louisville is the only activity that can and does perform this role. Approximately 300 direct workyears or 525,000 direct Labor Hours within this facility are performed for the Naval Weapons Systems Programs. This facility is the [illegible] with all Technical Capabilities on Station. This provides unequalled synergy in terms of product and process knowledge, full life cycle support and in terms of product [illegible]. Additionally, this facility supports major core and mission essential programs and functions for the Naval Surface Warfare Center, other Navy facilities, the Fleet, the other Services, and DoD. NSWC, Louisville is the only industrial facility in the Naval Surface Warfare Center. For many years, programs that this facility supports have had the engineering function (IEEA) delineated as the expertise in the programs, systems and equipments are better developed through years of working in a modernization, overhaul/repair environment.

Several Joint [illegible] would be [illegible] impacted.

[illegible] extent [illegible] include Joint Strike, Joint [illegible] Presence, Special Programs, Fleet/Expeditionary Force, [illegible] Readiness, Support and Infrastructure.

National [illegible] would be severely impacted.

Numerous [illegible] were reverse engineered, manufactured and shipped in record time (less than 60 days vice 300 days if a private source was available and used for Desert Storm and Cold War including flight critical Army [illegible] parts.

World class proficiency [illegible] capabilities would be lost.

The Marine Corps came to this facility, which conceived of the Mine Rake for the AAV, developed, designed, prototyped, tested/evaluated it, completed producibility and are currently providing technical support.

Operational Readiness would suffer. The R&D, engineering and production skills in existence and being developed for rapid prototyping, manufacture and repair on demand will have tremendous consequences to virtually all operationally forces as this facility is applicable to virtually all programs and weapon systems across DoD. This facility is more specifically used for major core and mission essential programs and functions for the Naval Surface Warfare Center, other Navy facilities, the Fleet, the other Services, and DoD.

This facility is the last source for many mechanical items.

This facility is the only viable gear manufacturing facility in DoD. All types of gears can be made from 1/4" to 10' in diameter. This would be very extensive and require duplication as there are more gear

machines at this site than any other Navy site and these machines are integral to supporting the other technical capabilities performed only at NSWC, Louisville.

This facility is the only manufacturer public or private of standard missile rocket motor casings. Over 35,000 have been made. Several specially designed, one-of-kind machines, furnaces and x-ray machine create this capability. The hydrospin machines are no longer manufactured. The process of using the spinners is the only approved means of producing standard missile rocket motor casings. All of the fixed machines would have to be retrofitted if relocated. Only one of 26 heat treat furnaces is large enough to perform the necessary heat treating. This furnace is over 20' tall and has four pits beneath it which are 10' deep. All processes are performed on-site and in close proximity.

Significant loss to the industrial base and to DoD.

Virtually all the direct work performed in this facility is work that other public activities (including the other Services) and the private sector cannot perform. This facility and this activity are leading DoD in applying new technologies and transferring them to the public and private sector. There are several vital unique aspects to this activity most of which are highly interrelated with one another providing unequalled synergy. The only activity in the Surface Warfare Center that provides a link from our strictly R&D and engineering stations to "applied R&D", "applied engineering" in support of prototyping, producibility (determining whether and how to produce items/parts most effectively); reverse as well as concurrent engineering relating to modernization/upgrade/alteration, and maintenance and overhaul. These functions are critical in order to keep the Government a smart buyer; to [illegible] of testing new potential products/systems, for determining improvements for existing products/systems, for advancing R&D, [illegible] manufacturing, producibility and sharing that knowledge [illegible] and engineering activities and with private industry. [illegible]ndous synergy through on-location and direct, integral involvement and support to other major core capabilities exists (i.e., Mine Counter Measures, Gun Weapon Systems, Surface Missile System Launchers, Management and Distribution of Naval Drawings and Shipboard Physical Security. Full spectrum support within and across all of these areas makes this a truly full spectrum facility.

Surge and mobilization will be severely impacted. This facility has, by far, the largest number of Computer Numerically Controlled (CNC) machines in the Navy. The equipment, facilities and expertise in conjunction with recent cooperatives for dual-use and technology transfer with private industry, other public facilities and academia make this facility uniquely qualified for surge/mobilization was well as reconstitution of the Defense Industry.

Overhaul and maintenance and production will be severely impacted as well. A vast, full spectrum collection of facilities, equipment and skills capable of manufacturing or machining virtually any part form raw stock to delivery to the end user is virtually unparalleled. These capabilities combined are key to numerous critical Joint Mission Areas, the DoD FCIM and RAMP programs for the making of the future industrial base as well as the maintaining of otherwise lost organic capabilities and key to the Technical Capabilities at this activity. Loss of this facility will cause the loss of the leading DoD activity in the all encompassing (full spectrum) involvement in R&D, prototyping, engineering, product engineering, rapid manufacture and repair and in technology transfer to the public and private sectors for the manufacture, repair and overhaul of mechanical parts; the only Product Data Exchange specification using Standard product model data (PDES) generation facility in DoD; the only capable and authorized manufacturer of standard missile rocket motor casings (requiring special permanent equipment and facilities which are economical due to dual-use with other Technical Capabilities); the MRPII test site for DoD-wide JC-FCIM sponsored factory shop floor control system (FACTory - trademark; the only Navy Parts Digitization System (PARDS) for mechanical parts; the only viable gear manufacturer in DoD; the only naval gun barrel manufacturing facility in the Navy; and a quick (60 vice 300 day) provider of difficult or otherwise impossible to make or contract parts for the Navy, Army, Air Force, Defense Logistics Agency, Foreign Military Sales and others.

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

The equipment was transported by rail or truck to the site and assembled. They were purchased from 1940 to present and set up according to manufacturers and activity specifications. Many had special or significant installation efforts as the equipment was so large it was shipped in several large modules (the largest single piece of equipment is 300 tons).

The major production buildings were originally constructed in 1940 with the exception of the plating facility and industrial waste water treatment facility which were constructed from 1988 to 1992 for approximately $30 million.

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

1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.8, 2.9, 2.13, 3.1, 3.3, 4.1, 4.2, 5.1, 5.2, 5.5, 6.1, 6.1, 6.4, 7.1, 7.3, 8.1, 8.2, 10.4, 10.7

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

	1989	1990	1991	1992	1993
Direct Labor Hours	758,697	882,194	962,899	880,858	843,169
Maximum Direct Labor Hours	998,235	991,645	1,046,629	1,048,312	1,028,487
Utilization	76%	89%	92%	84%	82%

12. Provide the projected utilization data out to FY1997.

This facility is dual-use. Utilization is for specialized technology and manufacturing/repair and for other Technical Capabilities on Station as follows:

	1995	1996	1997
Specialized Technology	304,217	293,801	285,115
Other Technical Capabilities	412,373	411,449	406,135
Total Projected Direct Labor Hours	716,590	705,250	691,250
Divided by Maximum Direct Labor Hours	897,750	851,863	838,948
Utilization	80%	83%	82%

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

650 employees

The personnel involved in this facility have a wealth of knowledge which requires years of working on these systems/products and equipments to obtain. Collectively there are more members on the DoD Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) Steering Committee; Joint Center for Flexible Computer Integrated Manufacturing (JC-FCIM) and DON FCIM Groups than any other activity in DoD; recognized as the Navy expert in Specialized Mechanical Technology and Manufacturing/Repair; designated as the original DoD FCIM Navy Process Validation Enterprise; and Editor of the DoD FCIM Focus Quarterly Publication/Magazine; engineers with environmental credentials to operate an environmentally compliant, on year old, state-of-the-art industrial waste water treatment facility and plating shop, a rare national certification for Level III Non-Destructive Testing of metal parts. The personnel have probably the most hands on engineering and technical environment in the Navy for mechanical systems, subsystems, components and items/parts. Many of the engineers on station who serve as Program Managers, Technical Direction Agents, Design Agents, Acquisition Engineering Agents, In Service Engineering Agents also work hand-in-hand on the production floor with skilled journeyman performing overhaul, repair and modification of the Gun Weapon Systems Programs and Technical Capabilities, and Missile System Launchers Program and Technical Capabilities. I am support the Shipboard Physical Security Technical Capability and Small Arms Technical Capability. NSWC, Louisville is the largest employer of engineers in the State of Kentucky. As a result of engineering schools, in a manufacturing region and a stable workforce, NSWC, Louisville has talented engineers and journeyman trades people who are uniquely qualified on these systems. Over 15 years on the equipment, facilities and systems including apprenticeship training and hands on experience are required to reach the high skilled journeyman level. Significant journeyman level and comparable engineering personnel exist at this activity supporting this facility. Management and employees are recognized as progressive, cutting edge, and a candid team as evidenced by it's selection and leadership demonstrated as a DoD FCIM Process Validation Enterprise and the recent

Best Manufacturing Practices Survey conducted and published by the Office of the Assistant Secretary of the Navy, Office of Research, Development and Acquisition which identified over 3 dozen Best Manufacturing Practices at NSWC, Louisville.

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

50

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

The Technology and Manufacturing/Repair Facility includes six adjacent major production buildings covering 565,211 square feet, housing one of if not the largest concentration of state-of-the-art (computer numerically controlled machines) in the Navy and over 1,000 machine tools (the largest machine tool weighing over 300 tons). Four buildings have railroad tracks running through them and two 75 ton capacity cranes per building. Technology, engineering and administrative spaces are co-located in these buildings.

SUBMARINE VALVE BALL
REFURBISHMENT FACILITY

MACHINE BALL O.D. ON CNC LATHE

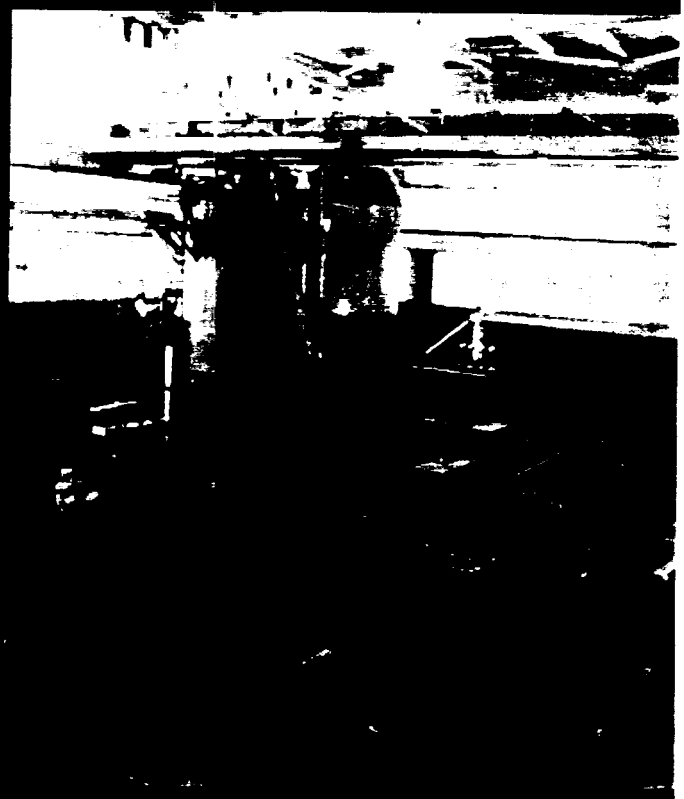
MACHINE LAP BALL O.D.

CHECK STACK HEIGHT WITH SEATS

FINISH LAP LARGE TITANIUM VALVE BALL

STANDARD MISSILE ROCKET MOTOR CASING MANUFACTURING FACILITY

HYDROSPIN ROLL FORMING MACHINE

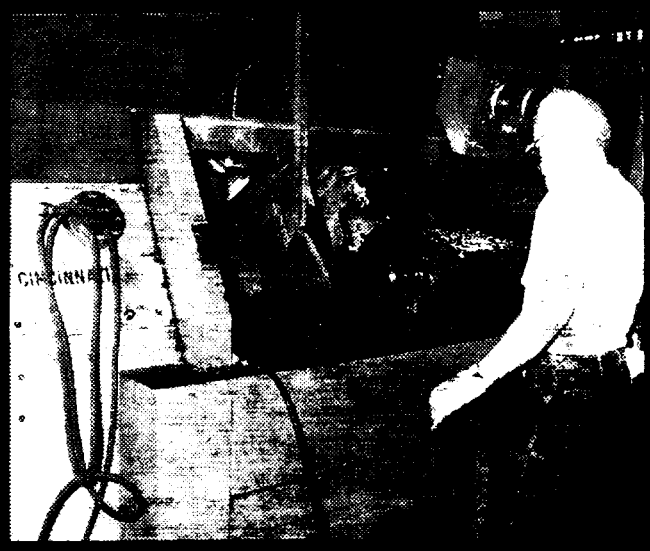


GANTRY FURNACE

CNC VERTICAL MACHINING CENTER

CNC ELECTRON BEAM WELDER

MK 137 SRBOC LAUNCHER REPLACEMENT
TUBE AND LAUNCHER OVERHAUL

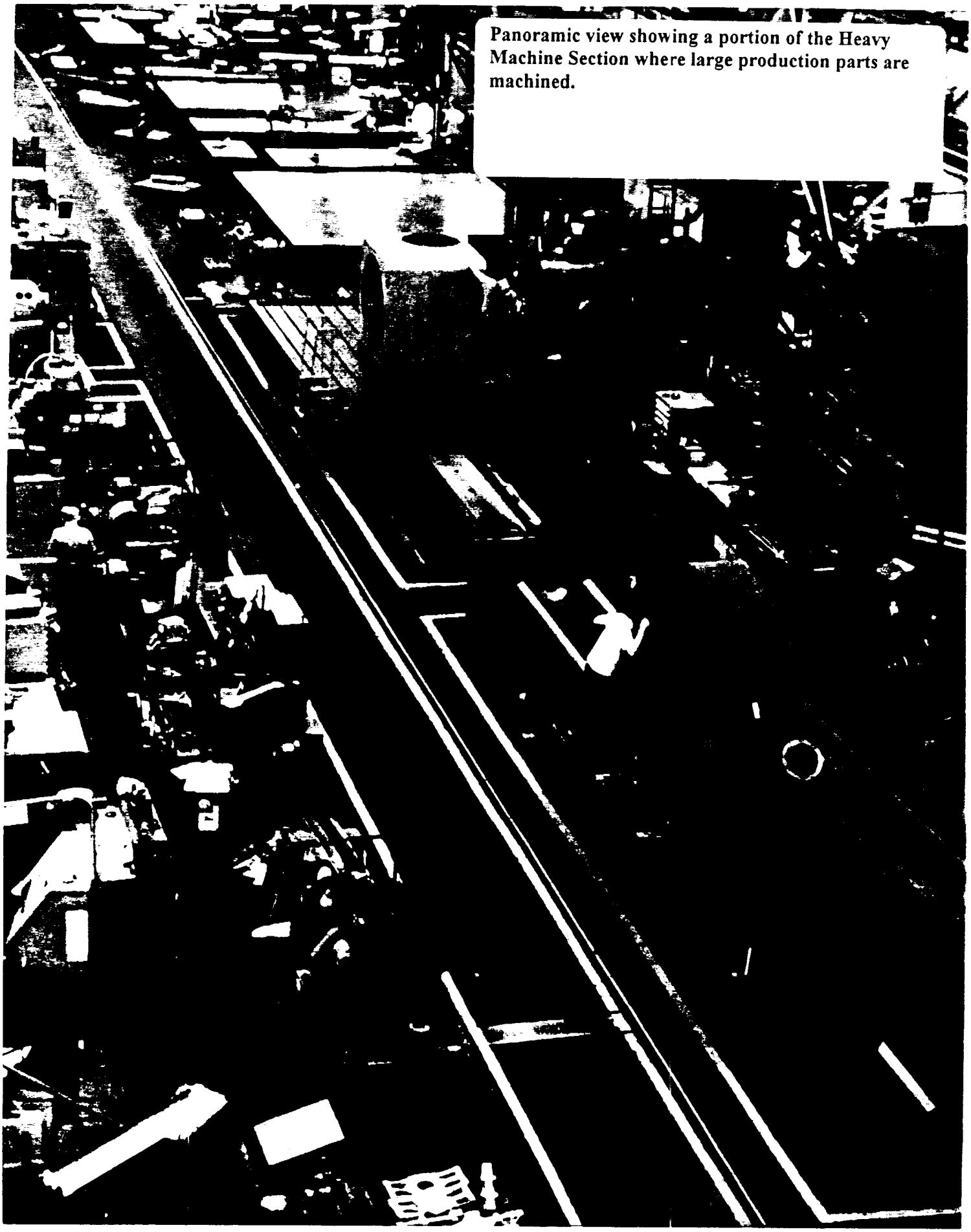


N/C LATHE ROUGH TURN

WELDING BASE TO TUBE

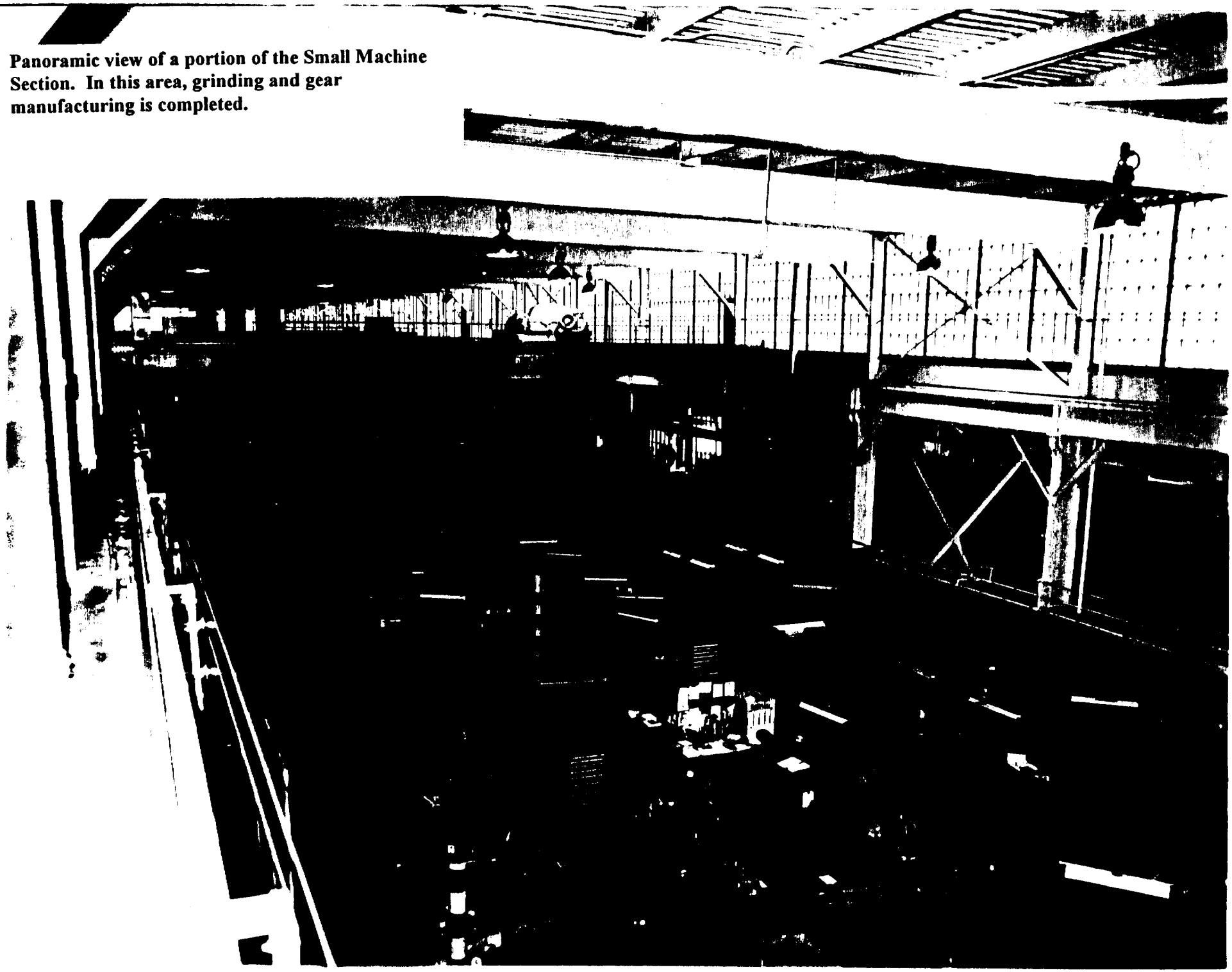
CNC MILL MACHINING HOLES

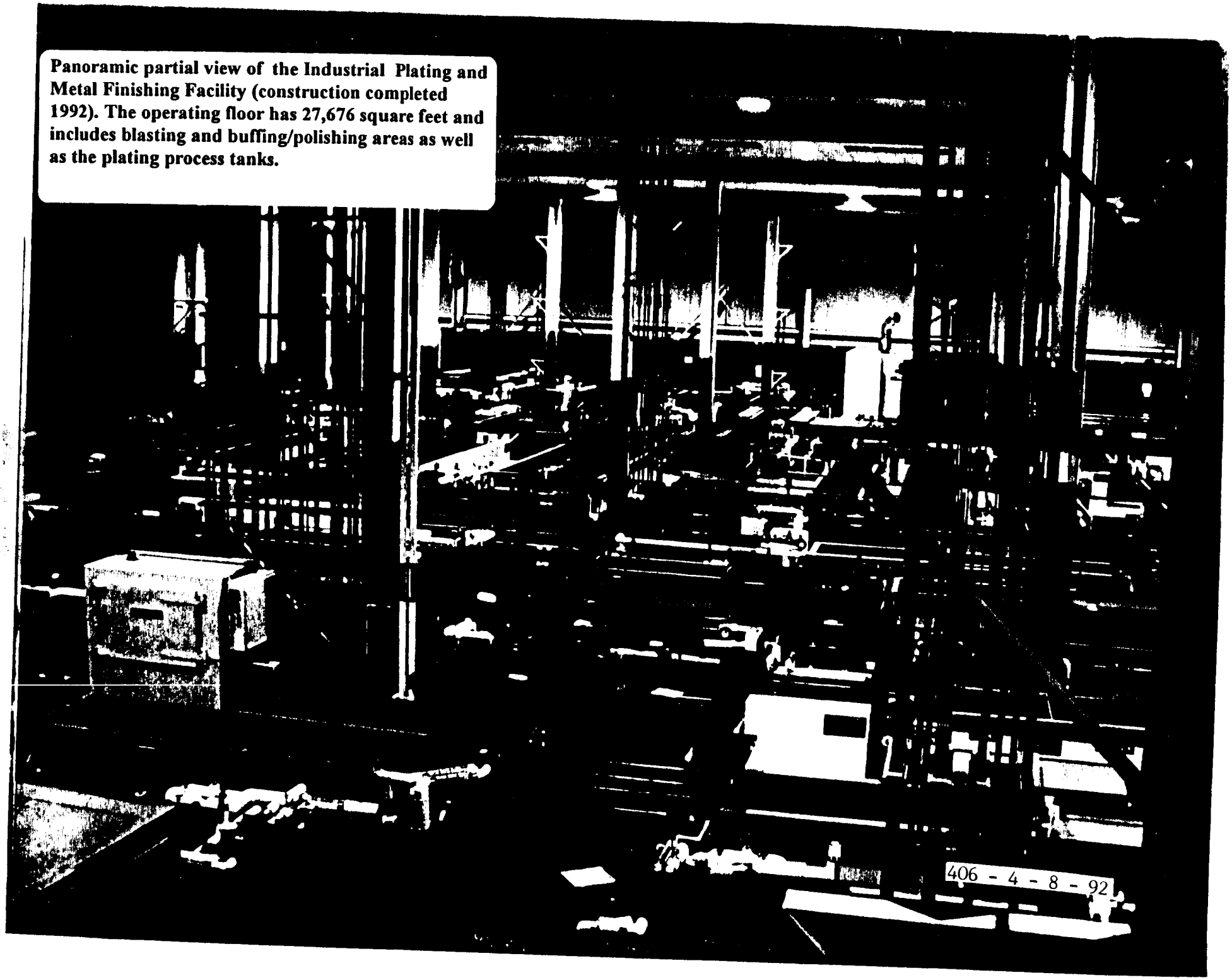
OVERHAULED LAUNCHER WITH TUBES



Panoramic view showing a portion of the Heavy Machine Section where large production parts are machined.

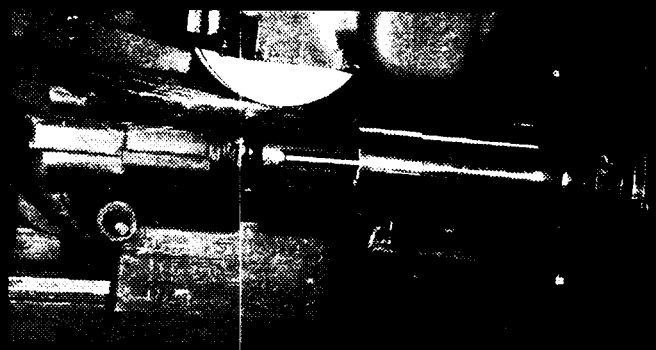
Panoramic view of a portion of the Small Machine Section. In this area, grinding and gear manufacturing is completed.

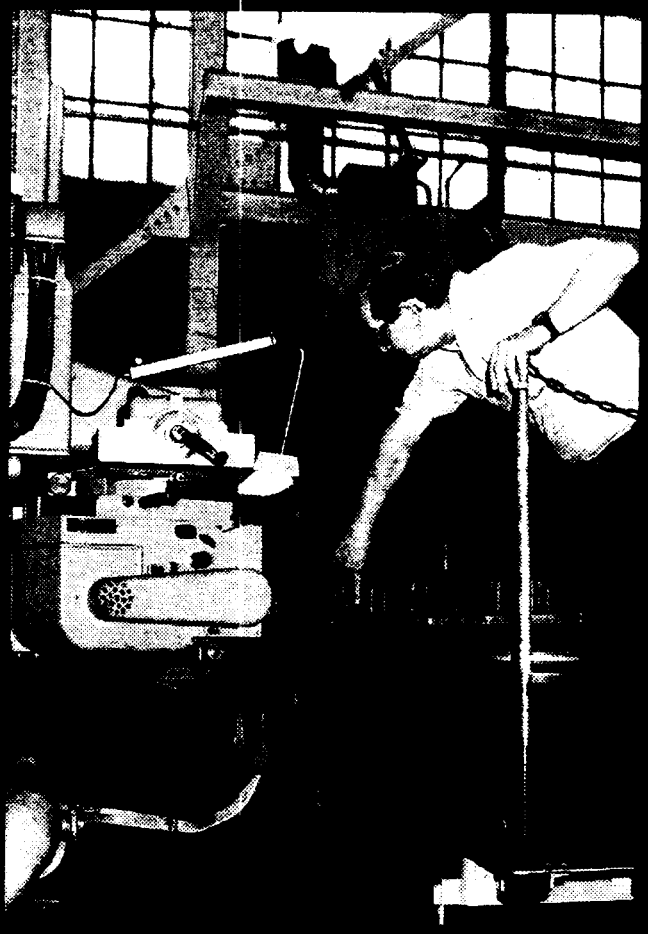


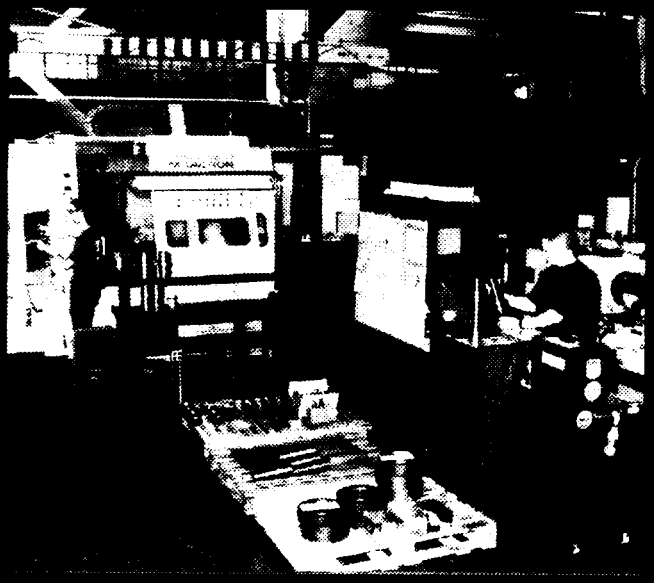


Panoramic partial view of the Industrial Plating and Metal Finishing Facility (construction completed 1992). The operating floor has 27,676 square feet and includes blasting and buffing/polishing areas as well as the plating process tanks.

GEAR MANUFACTURING







Panoramic view showing one of six sections of the welding and metal fabrication shop. You are looking at metal saws, brakes, rolls, and metal shears. These machines are used to produce small production parts to large weldments for all Station projects.

TAB C

RANGE RESOURCES

RANGE CAPABILITY FORM

RANGE RESOURCES
RANGE CAPABILITY FORM

Technical Center Site	NSWC, LOUISVILLE
Range Nomenclature or Title	MK23 TAS ANTENNA LOW POWER TEST RANGE

1. List all the ranges that your activity maintains and operates. Provide the following information on each range:

a. A brief statement of what the range is used for.

Low power antenna test range used to conduct gain and side-lobe tests.

b. Geographic location of the range.

The range extends from the east side of L-Building to a point 350 feet northeast of L-Building. The receiving antenna is located on the roof of L-Building and the source antenna is located on the ground.

c. Distance from the range to the activity's headquarters facility (main site).

The range is 0.5 miles from the headquarters facility in the Administrative Building.

d. Range size in square miles.

The range covers .00224 square miles

e. Scheduling authority.

The Opeations Department within the Weapons Projects Directorate is responsible for scheduling the range.

f. Air space available/restrictions.

This range is within five miles of the local airport, however the FAA has granted clearance to conduct low power testing.

g. Maximum water depth available/restrictions.

Not applicable

h. Instrumentation capability.

Instrumentation consists primarily of a TWT amplifier, functional generator, parabolic antenna, global positioning equipment and a chart recorder.

i. Accuracy of tracking.

Not applicable, tracking is not performed.

j. Data collection/replay capability.

Data is collected in the form of signal patterns via a chart recorder.

k. What are the maximum hours per year that this range is available to support activities? Provide the actual hours that the range was up and capable of providing services. Do not count "down time" due to maintenance, reconfiguration, or administrative activities (i.e., Holiday shutdowns).

The range is available 8520 hours a year. This is based on a 24 hour per day schedule and allowing ten holidays.

l. What were the actual hours this range was utilized per year for the last five years (FYs 1989-1993)?

The Weapons Projects Directorate began developing this range 2 years ago. It has been operational for one year and during this time it has accumulated 80 hours of test time.

m. What were the actual hours that this range was utilized in FY1993?

Eighty hours

n. Who are the customers of the range?

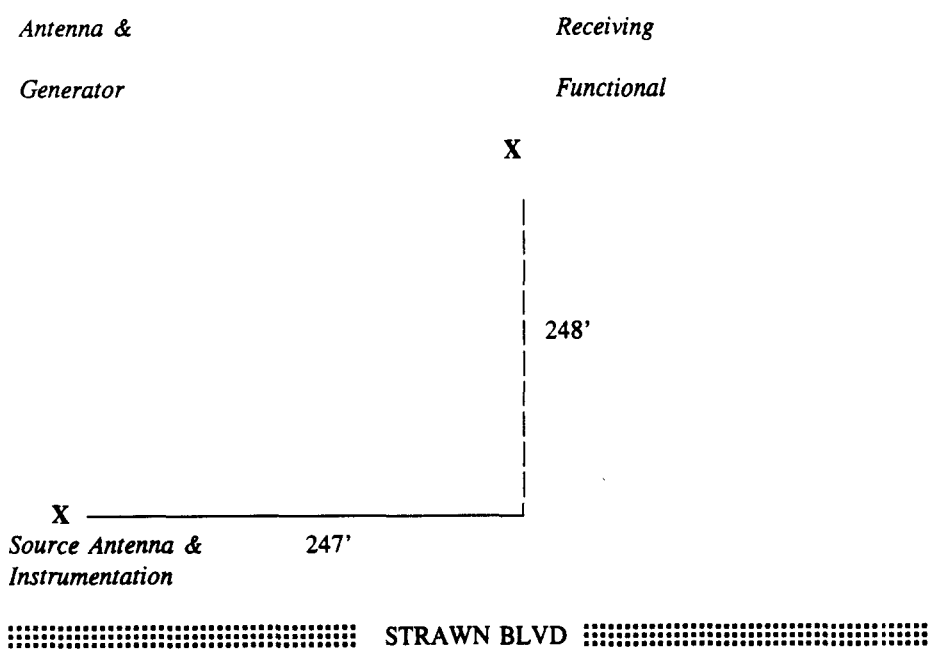
Naval Surface Warfare Center (NSWC) Port Hueneme Division

o. Of the actual hours utilized what percentage of utilization time was provided to which customers?

All utilization time was dedicated to NSWC Port Hueneme Division.

p. Provide a sketch, drawing or map of the range.

SKETCH OF MK23 TAS ANTENNA RANGE



2. Are any of your ranges part of the DoD Major Range and Test Facility Base (MRTFB)? (yes/no) If yes, which ones?

No

3. Are there any limiting (current or future) environmental and/or encroachment characteristics that are associated with this range.

There is little room for expansion. Due to the close proximity of production buildings reflection sometimes occurs.

RANGE RESOURCES
RANGE CAPABILITY FORM

Technical Center Site	NSWC, LOUISVILLE
Range Nomenclature or Title	TE8000 Weapon System Test Range

1. List all the ranges that your activity maintains and operates. Provide the following information on each range:

a. A brief statement of what the range is used for.

This range is used for final acceptance testing of overhauled/upgraded PHALANX Close-In Weapon Systems (CIWS).

b. Geographic location of the range.

The range is located at the Naval Surface Warfare Center Louisville, KY site.

c. Distance from the range to the activity's headquarters facility (main site).

The range is located at the main site.

d. Range size in square miles.

The range size is .001 square miles.

e. Scheduling authority.

The scheduling authority is the Close-In Defense Directorate of NSWC/Louisville.

f. Air space available/restrictions.

Not applicable.

g. Maximum water depth available/restrictions.

Not applicable.

h. Instrumentation capability.

The instrumentation simulates targets (ku band) and presents them to the weapon system to ensure that the weapon system meets the system performance specifications. It simulates all ship systems interfaces to the weapon system.

i. Accuracy of tracking.

Tracking accuracy is 0.1 milliradians.

j. Data collection/replay capability.

The range instrumentation captures all available weapon system parameters in digital form and stores the information on disk and on disk and on cartridge tape. Every engagement of the weapon system can be replayed in real time.

k. What are the maximum hours per year that this range is available to support activities? Provide the actual hours that the range was up and capable of providing services. Do not count "down time" due to maintenance, reconfiguration, or administrative activities (i.e., Holiday shutdowns).

This range is available 6,240 hours (3 shifts/day, 5 days/week, 52 weeks/year) per year and was up and available approximately 6,200 hours in CY 93.

l. What were the actual hours this range was utilized per year for the last five years (FYs 1989-1993)?

The average annual utilization of this range for FYs 1989-1993 was approximately 7,150 hours per year. (Note: This was due to the fact that in 1989, 1990, and part of 1991 the range was operated 3 shifts/day, 7 days/week, 51 weeks/year.)

m. What were the actual hours that this range was utilized in FY1993?

The range was utilized approximately 6,200 hours in FY 1993.

n. Who are the customers of the range?

This range is designed and dedicated to the test of PHALANX CIWS as part of the overhaul/upgrade program for PEO(TAD).

o. Of the actual hours utilized what percentage of utilization time was provided to which customers?

PED/TAD	81%
FMS	17%
SPCC	.2%

p. Provide a sketch, drawing or map of the range.

See attached sketch

2. Are any of your ranges part of the DoD Major Range and Test Facility Base (MRTFB)? (yes/no) If yes, which ones?

No

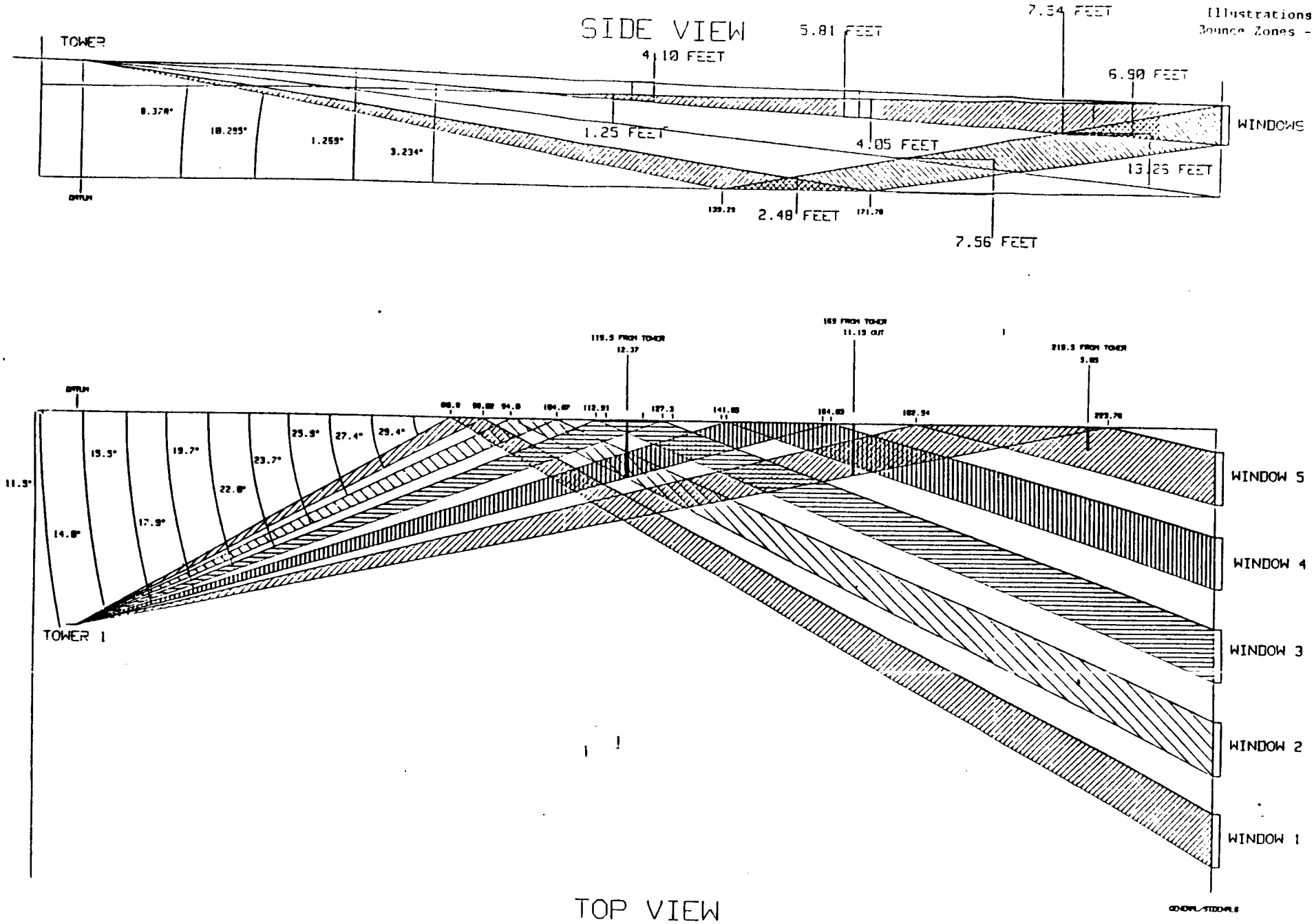
3. Are there any limiting (current or future) environmental and/or encroachment characteristics that are associated with this range.

No

100-0005

Figure 3.

Illustrations of Wall Bounce Zones - Tower 1



NSWC CRANE DIV, LOUISVILLE
DATA CALL #5

JZ
SE09X
5/12/94

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print

Signature

COMMANDER
Title

6 MAY, 1994
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (SEL) D.P. SARGENT, JR.
NAME (Please type of print

Signature

COMMANDER
Title

5/11/94
Date

NAVAL SURFACE WARFARE CENTER
Activity

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

MAJOR CLAIMANT LEVEL

G. R. STERNER
NAME (Please type or print

Signature

5-13-94
Date

Title
Commander
Naval Sea Systems Command
Activity

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

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

J.B. Greene, Jr.
NAME (Please type of print

Signature

Acting
Title

27 May 1994
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

R.W. GILBERT
NAME (Please type of print)

Signature

COMMANDING OFFICER
Title

6 MAY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

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

Rev. 195 pg. crime data

NEXT ECHELON LEVEL (if applicable)

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

9/9/94
Date

Crane 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 (Sel) D. P. Sargent, Jr.
NAME (Please type or print)

Signature

Commander
Title

9/14/94
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

G. R. STERNER
Commander
Naval Sea Systems Command
Title

9.19.94
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

10/1/94
Date

DATA CALL # 5
LOUISVILLE SITE

NAVAL SURFACE WARFARE CENTER
CRANE DIVISION (LOUISVILLE SITE)
DATA CALL #5

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 purpose 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 the 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

JON R. CUMMINGS
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

9/9/94
Date

NAVSURFWARCEN ORDSTA
Activity

1. In regards to the BSAT request for clarification dated 9 September 1994, the response to question #23 of Data Call #5 is provided.

195

ENVIRONMENTAL DATA CALL

NAVAL SURFACE WARFARE CENTER, CRANE DIVISION
LOUISVILLE, KENTUCKY SITE
UIC: N00197

Responses to the following questions provide data that will allow an assessment of the potential environmental impact associated with the closure or realignment of a Navy shore activity. This criterion consists of:

- **Endangered/Threatened Species and Biological Habitat**
- **Wetlands**
- **Cultural Resources**
- **Environmental Facilities**
- **Air Pollution**
- **Environmental Compliance**
- **Installation Restoration**
- **Land/Air/Water Use**

As part of the answers to these questions, a *source citation* (e.g., 1993 base loading, 1993 base-wide Endangered Species Survey, 1993 letter from USFWS, 1993 Base Master Plan, 1993 Permit Application, 1993 PA/SI, etc.) must be included. It is probable that, at some point in the future, you will be asked to provide additional information detailing specifics of individual characteristics. In anticipation of this request, supporting documentation (e.g., maps, reports, letters, etc.) regarding answers to these questions should be retained. Information needed to answer these questions is available from the cognizant EFD Planning and Real Estate Divisions, and Environment, Safety, and Health Divisions; and from the activity Public Works Department, and activity Health Monitoring and Safety Offices.

For purposes of the questions associated with land use at your base is *defined* as *land* (acreage owned, withdrawn, leased, and controlled through easements); *air* (space controlled through agreements with the FAA, e.g., MOAs); *and water* (navigation channels and waters along a base shoreline) *under the control of the Navy*.

Provide a list of the tenant activities with UICs in this response.

TENANTS	UIC
Defense Printing Service (DPS)	NSWC, LOUISVILLE: N00197
Defense Finance and Accounting Service (DFAS)	NSWC, LOUISVILLE: N00197
Schedule Airline Travel Office (SATO)	NSWC, LOUISVILLE: N00197

1. ENDANGERED/THREATENED SPECIES AND BIOLOGICAL HABITAT

1a. For federal or state listed endangered, threatened, or category 1 plant and/or animal species on your base, complete the following table. Critical/sensitive habitats for these species are designated by the U. S. Fish and Wildlife Service (USFWS). A species is present on your base if some part of its life-cycle occurs on Navy controlled property (e.g., nesting, feeding, loafing). Important Habitat refers to that number of acres of habitat that is important to some life cycle stage of the threatened/endangered species that is not formally designated.

SPECIES (plant or animal)	Designation (Threatened/ Endangered)	Federal/ State	Critical / Designated Habitat (Acres)	Important Habitat (acres)
example: Haliaeetus leucocephalus - bald eagle	*threatened*	*Federal*	*25*	*0*
None Identified	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

Source Citation: N/A

1b.

Have your base operations or development plans been constrained due to: **- USFWS or National Marine Fisheries Service (NMFS)?** **- State required modifications or constraints?** **If so, identify below the impact of the constraints including any restrictions on land use.**	NO
Are there any requirements resulting from species not residing on base, but which migrate or are present nearby? If so, summarize the impact of such constraints.	NO

1c. If the area of the habitat and the associated species have not been identified on base maps provided in Data Call 1, submit this information on an updated version of Data Call 1 map.

- Not applicable.

1d.

Have any efforts been made to relocate any species and/or conduct any mitigation with regards to critical habitats or endangered/threatened species? Explain what has been done and why.	NO

- Not applicable.

1e.

Will any state or local laws and/or regulations applying to endangered/threatened species which have been enacted or promulgated but not yet effected, constrain base operations or development plans beyond those already identified? Explain.	NO

- Not applicable.

2. WETLANDS

Note: Jurisdictional wetlands are those areas that meet the wetland definitional criteria detailed in the Corps of Engineers (COE) Wetland Delineation Manual, 1987, Technical Report Y-87-1, U.S. Army Engineer Waterway Experiment Station, Vicksburg, MS or officially adapted state definitions.

2a.

Does your base possess federal jurisdictional wetlands?	YES
Has a wetlands survey in accordance with established standards been conducted for your base?	NO
When was the survey conducted or when will it be conducted?____/____/____	N/A
What percent of the base has been surveyed?	N/A
What is the total acreage of jurisdictional wetlands present on your base?	1.0

Source Citation: NAVSEASYSCOM Environmental Compliance Evaluation of 4-8 MAY, 1992

2b. If the area of the wetlands has not been identified on base maps provided in Data Call 1, submit this on an updated version of Data Call 1 map.

- See wetlands map on next page.

2c. Has the EPA, COE or a state wetland regulatory agency required you to modify or constrain base operations or development plans in any way in order to accommodate a jurisdictional wetland? NO.

If YES, summarize the results of such modifications or constraints.

3. CULTURAL RESOURCES

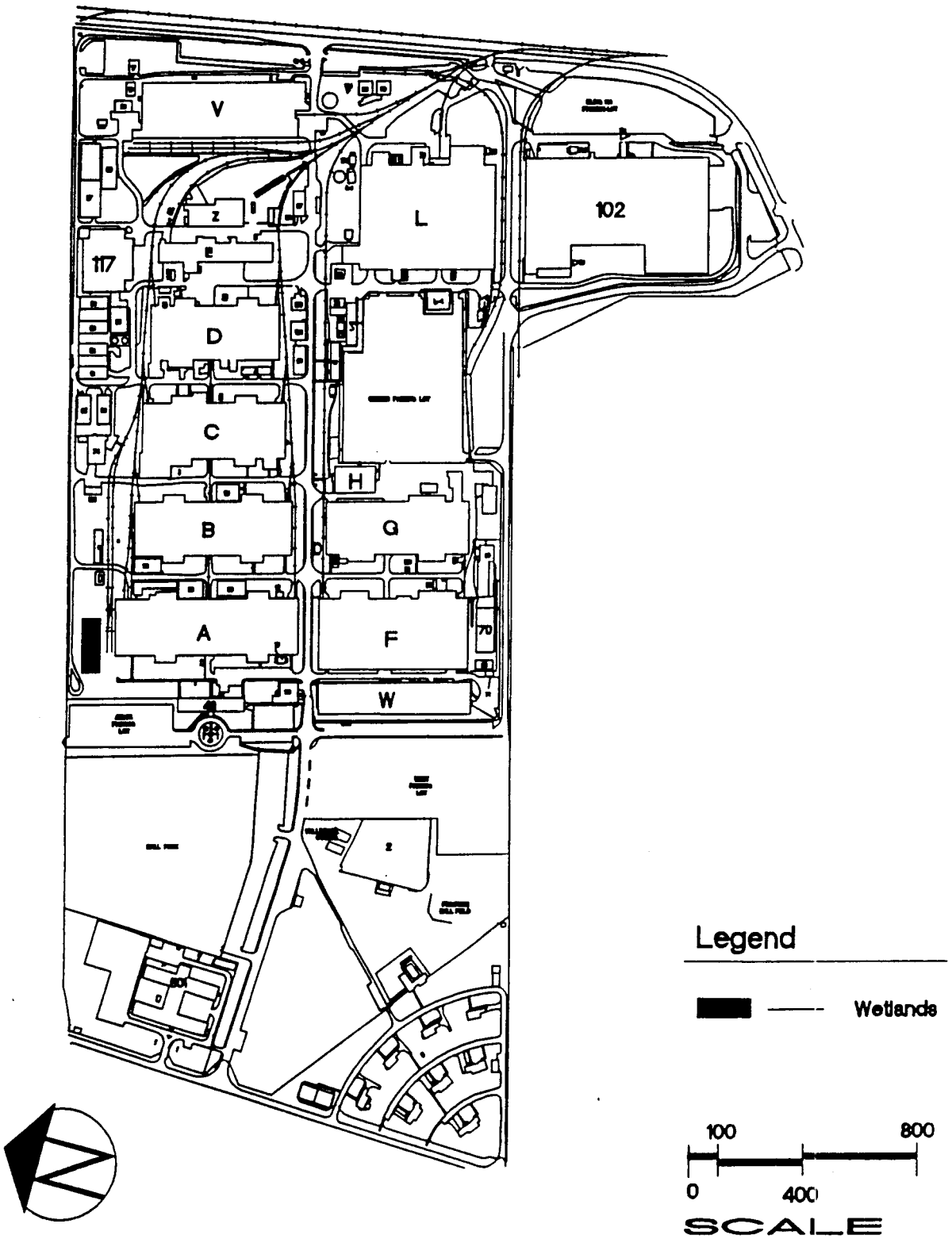
3a.

Has a survey been conducted to determine historic sites, structures, districts or archaeological resources which are listed, or determined eligible for listing, on the National Register of Historic Places? If so, list the sites below.	YES

- Building B of the Station contains two pieces of rare industrial equipment dating to World War II that are potentially eligible for nomination to the NRHP.

ACTIVITY DESCRIPTION

Louisville Site



WETLANDS

NAVSURFWARCENDIV Crane

3a. (con't)
There are seven major production buildings, eight residential dwellings and eleven support buildings that are World War II vintage and have been described as potentially eligible for nomination to the NRHP. The survey was conducted by Ecology and Environment, Inc. in 1990.

3b.

Has the President's Advisory Council on Historic Preservation or the cognizant State Historic Preservation Officer required you to mitigate or constrain base operations or development plans in any way in order to accommodate a National Register cultural resource? If YES, list the results of such modifications or constraints below.	NO

3c.

Are there any on base areas identified as sacred areas or burial sites by Native Americans or others? List below.	NO

- Not applicable

4. ENVIRONMENTAL FACILITIES

Notes: If your facility is permitted for less than maximum capacity, state the maximum capacity and explain below the associated table why it is not permitted for maximum capacity. Under "Permit Status" state when the permit expires, and whether the facility is operating under a waiver. For permit violations, limit the list to the last 5 years.

4a.

Does your base have an operating landfill?					**NO**
ID/Location of Landfill	**Permitted Capacity (CYD)**		**Maximum Capacity (CYD)**	**Contents[1]**	**Permit Status**
	TOTAL	**Remaining**			
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

[1] **Contents (e.g. building demolition, asbestos, sanitary debris, etc)**

Are there any current or programmed projects to correct deficiencies or improve the facility.

- Not applicable

4b. If there are any non-Navy users of the landfill, describe the user and conditions/agreements.

- Not applicable

4c.

Does your base have any disposal, recycling, or incineration facilities for solid waste?					NO
Facility/Type of Operation	**Permitted Capacity**	**Ave Daily Throughput**	**Maximum Capacity**	**Permit Status**	**Comments**
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

List any permit violations and projects to correct deficiencies or improve the facility.

- Not applicable

4d.

Does your base own/operate a Domestic Wastewater Treatment Plant (WWTP) ?					NO
ID/Location of WWTP	**Permitted Capacity**	**Ave Daily Discharge Rate**	**Maximum Capacity**	**Permit Status**	**Level of Treatment/Year Built**
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

List permit violations and discuss any projects to correct deficiencies.

- Not applicable

4e. If you do not have a domestic WWTP, describe the average discharge rate of your base to the local sanitary sewer authority, discharge limits set by the sanitary sewer authority (flow and pollutants) and whether the base is in compliance with their permit. Discuss recurring discharge violations.

- THE AVERAGE DISCHARGE RATE IS 500,000 GALLONS/DAY.
- SEE FOLLOWING PAGE FOR DISCHARGE LIMITATIONS (MG/L)
- THE BASE IS IN COMPLIANCE WITH THE PERMIT.
- THERE ARE NO RECURRING DISCHARGE VIOLATIONS.

4e. (con't)

TOTAL FACILITY DISCHARGE LIMITATIONS:

Parameter	Daily Max (mg/l)	Monthly Avg (mg/l)
Arsenic	0.25	0.10
Barium	10.00	4.00
Cadmium	0.25	0.10
Chromium	3.00	7.50
Hexavalent Chromium	0.25	0.10
Copper	3.00	7.50
Cyanide	1.00	2.50
Iron	38.00	15.00
Lead	0.20	0.50
Mercury	0.05	0.02
Nickel	13.00	5.00
Oil & Grease	100.00	100.00

4f.

Does your base operate an Industrial Waste Treatment Plant (IWTP)?					YES
ID/Location of IWTP	**Type of Treatment**	**Permitted Capacity**	**Ave Daily Discharge Rate**	**Maximum Capacity (Gallons)**	**Permit Status**
BUILDING 118	NEUTRALIZATION	Not Reqd.	BATCH	6000	None*
	CHROME REDUCTION	Not Reqd.	BATCH	14000	None
	CYANIDE DESTRUCTION	Not Reqd.	BATCH	27000	None
		Not Reqd.	BATCH	160000	None
	MIXED CHEMICAL TTO	Not Reqd.	BATCH	6000	None

*Permits are not required for these types of treatment

List any permit violations and projects to correct deficiencies or improve the facility.

- EXCEEDED DAILY DISCHARGE LIMITATION OF 2.77 MG/L TOTAL CHROMIUM
- EXCEEDED MONTHLY AVERAGE LIMITATION OF 1.71 MG/L TOTAL CHROMIUM
- EXCEEDED DAILY DISCHARGE LIMITATION OF 1.20 MG/L TOTAL CYANIDE
- EXCEEDED MONTHLY AVERAGE LIMITATION OF 0.65 MG/L TOTAL CYANIDE
- EXCEEDED DAILY DISCHARGE LIMITATION OF 2.13 MG/L TTO
- ALL DEFICIENCIES HAVE BEEN CORRECTED.

4g. Are there other waste treatment flows not accounted for in the previous tables? Estimate capacity and describe the system.

- No.

4h.

Does your base operate drinking Water Treatment Plants (WTP)?					NO
ID/Location of WTP	**Operating (GPD)**		**Method of Treatment**	**Maximum Capacity**	**Permit Status**
	Permitted Capacity	**Daily Rate**			
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

List permit violations and projects/actions to correct deficiencies or improve the facility.

- Not applicable

4i. If you do not operate a WTP, what is the source of the base potable water supply. State terms and limits on capacity in the agreement/contract, if applicable.

- The Louisville Water Company supplies the potable water to the Station. According to the Louisville Water Company, a maximum capacity of 2.16 million gallons/day can be delivered.

4j.

Does the presence of contaminants or lack of supply of water constrain base operations. Explain.	NO

4k.

Other than those described above does your base hold any NPDES or stormwater permits? If YES, describe permit conditions.	NO
If NO, why not and provide explanation of plan to achieve permitted status.	

- The City of Louisville has combined sanitary and storm sewers that discharge to a local Publicly Owned Treatment Works (POTW). The Station stormwater is discharged to the Louisville combined sewer system.

4l.

Does your base have bilge water discharge problem?	NO
Do you have a bilge water treatment facility?	NO

Explain: Not applicable

4m.

Will any state or local laws and/or regulations applying to Environmental Facilities, which have been enacted or promulgated but not yet effected, constrain base operations or development plans beyond those already identified? Explain.	NO

4n. What expansion capacity is possible with these Environmental Facilities? Will any expansions/upgrades as a result of BRACON or projects programmed through the Presidents budget through FY1997 result in additional capacity? Explain.

- Expansion of the IWTP is possible by increasing the capacity of some of the treatment tanks. A 20% increase is possible.
- No expansions have been programmed.

4o. Do capacity limitations on any of the facilities discussed in question 4 pose a present or future limitation on base operations? Explain.

- None identified.

5. AIR POLLUTION

5a.

What is the name of the Air Quality Control Areas (AQCAs) in which the base is located? Jefferson County, Kentucky
Is the installation or any of its OLFs or non-contiguous base properties located in different AQCAs? No. **List site, location and name of AQCA.**

5b. For each parcel in a separate AQCA fill in the following table. Identify with and "X" whether the status of each regulated pollutant is: attainment/nonattainment/maintenance. For those areas which are in non-attainment, state whether they are: Marginal, Moderate, Serious, Severe, or Extreme. State target attainment year.

Site: Naval Surface Warfare Center, Crane Division
AQCA: Jefferson County, Kentucky

Pollutant	Attainment	Non-Attainment	Maintenance	Target Attainment Year[1]	Comments[2]
CO	X				
Ozone		X Moderate		1996	Not dependent upon BRACON,etc.
PM-10	X				
SO_2	X				
NO_2	X				
Pb	X				

[1]**Based on national standard for Non-Attainment areas or SIP for Maintenance areas.**

[2]**Indicate if attainment is dependent upon BRACON, MILCON or Special Projects. Also indicate if the project is currently programmed within the Presidents FY1997 budget.**

5c. For your base, identify the baseline level of emissions, established in accordance with the Clean Air Act. Baseline information is assumed to be 1990 data or other year as specified. Determine the total level of emissions (tons/yr) for CO, NOx, VOC, PM10 for the general sources listed. For all data provide a list of the sources and show your calculations. Use known emissions data, or emissions derived from use of state methodologies, or identify other sources used. "Other Mobile" sources include such items as ground support equipment.

	Emission Sources (Tons/Year)				
Pollutant	**Permitted Stationary**	**Personal Automobiles**	**Aircraft Emissions**	**Other Mobile**	**Total**
CO	5	706	0	0	711
NOx	20	50	0	0	70
VOC	36	122	0	0	158
PM10	0	0	0	0	0

Source Document: 1990 Air Emissions Inventory,Ap-42, PHONCON w/Vehicle Emissions Testing Personnel on 19 May 1994.

- See calculations on next page.

5d. For your base, determine the total FY1993 level of emissions (tons/yr) for CO, NOx, VOC, PM10 for the general sources listed. For all data provide a list of the sources and show your calculations. Use known emissions data, or emissions derived from use of state methodologies, or identify other sources used. "Other Mobile" sources include such items as ground support equipment.

	Emissions Sources (Tons/Year)				
Pollutant	**Permitted Stationary**	**Personal Automobiles**	**Aircraft Emissions**	**Other Mobile**	**Total**
CO	5	620	0	0	625
NOx	20	44	0	0	64
VOC	32	107	0	0	139
PM10	0	0	0	0	0

Source Document: 1993 Air Emissions Inventory, AP-42, PHONCON w/Vehicle Emissions Testing Personnel on 19 May 1994.

- See calculations on next page.

CALCULATIONS
for 5c and 5d

5.c.

Automobiles

CO: (29.67 gm/mi)(3300 cars/day)(30 mi/car)(lb/453.6 gm)
(ton/2000 lb)(218 days/yr) = 706 TPY

NOx: (2.09 gm/mi) >>---> = 50 TPY

VOC: (5.11 gm/mi) >>---> = 122 TPY

5.d.

Automobiles

CO: (29.67 gm/mi)(2900 cars/day)(30 mi/car)(lb/453.6 gm)
(ton/2000 lb)(218 days/yr) = 620 TPY

NOx: (2.09 gm/mi)(2900 cars/day) >>---> = 44 TPY

VOC: (5.11 gm/mi)(2900 cars/day) >>---> = 107 TPY

-Assumes 17 mi/gal.
-All stationary source quantities are from the 1993 Air Emissions Inventory.

5e. Provide estimated increases/decreases in air emissions (Tons/Year of CO, NOx, VOC, PM10) expected within the next six years (1995-2001). Either from previous BRAC realignments and/or previously planned downsizing shown in the Presidents FY1997 budget. Explain.

- VOC emissions are expected to decrease by approximately 20% after implementation of material substitution in painting and solvent applications.

5f. Are there any critical air quality regions (i.e. non-attainment areas, national parks, etc.) within 100 miles of the base?

- Jefferson County is a moderate non-attainment area for ozone. Several state parks are included in the area.

5g. Have any base operations/mission/functions (i.e.: training, R&D, ship movement, aircraft movement, military operations, support functions, vehicle trips per day, etc.) been restricted or delayed due to air quality considerations. Explain the reason for the restriction and the "fix"implemented or planned to correct.

- Yes. Solvent cleaning of large assemblies has been restricted due to air pollution control limitations in Jefferson County, KY. Large hot water washing equipment has been installed to clean components prior to assembly. A pollution prevention study will recommend additional industrial process changes to modify the use of solvents in degreasing.

5h. Does your base have Emission Reduction Credits (ERCs) or is it subject to any emission offset requirements? If yes, provide details of the sources affected and conditions of the ERCs and offsets. Is there any potential for getting ERCs?

- No, however the Station plans to participate in a community plan that entails a 15% reduction in VOC levels, as measured by comparison to a 1990 baseline.
- No, there is no potential for getting ERCs.

6. ENVIRONMENTAL COMPLIANCE

6a. Identify compliance costs, currently known or estimated that are required for permits or other actions required to bring existing practices into compliance with appropriate regulations. Do not include Installation Restoration costs that are covered in Section 7 or recurring costs included in question 6c. For the last two columns provide the combined total for those two FY's.

Program	Survey Com-pleted?	Costs in $K to correct deficiencies					
		FY94	FY95	FY96	FY97	FY98-99	FY00-01
Air	Yes	23	103	23	23	46	46
Hazardous Waste	Yes	9	19	9	9	18	19
Safe Drinking Water Act	Yes	0	0	0	0	0	0
PCBs	Yes	0	0	0	0	0	0
Other (non-PCB) Toxic Substance Control Act	No	0	0	0	0	0	0
Lead Based Paint	No	2	2	2	2	4	4
Radon	Yes	0	0	0	0	0	0
Clean Water Act	Yes	0	0	0	0	0	0
Solid Waste	No	0	0	0	0	0	0
Oil Pollution Act	No	0	0	0	0	0	0
USTs	Yes	1	1	1	1	2	2
Other: Asbestos	Yes	1	1	1	1	2	2
Total		36	126	36	36	72	73

Provide a separate list of compliance projects in progress or required, with associated cost and estimated start/completion date.

- See compliance project list on next page.

6.a. (con't)

COMPLIANCE PROJECT LIST

Title	Cost($)	Start Date	Comp Date
Improvements-Packed Tower	60 K	12-94	09-95
Source Survey for Title V Permit	80 K	2-95	5-95
Construct Fueling Sation	93 K	9-94	2-95
Repair Floor at Str. 86	106 K	3-96	11-96
Remove Asbestos Insulation and Debris	2000 K	2-94	2-04
Remove Underground Storage Tanks	376 K	3-94	12-95

6b.
Does your base have structures containing asbestos? Yes. **What % of your base has been surveyed for asbestos?** 95%. **Are additional surveys planned?** No. **What is the estimated cost to remediate asbestos ($K)** $9,032. **Are asbestos survey costs based on encapsulation, removal or a combination of both?** Both.

6c. Provide detailed cost of recurring operational (environmental) compliance costs, with funding source. ($K).

Funding Source	FY92	FY93	FY94	FY95	FY96	FY97	FY98-99	FY00-01
O&MN	0	0	0	0	0	0	0	0
HA	0	0	0	0	0	0	0	0
PA	0	0	0	0	0	0	0	0
Other (specify): DBOF	585	670	875	879	930	828	1682	1661
TOTAL ($K)	585	670	875	879	930	828	1682	1661

6d. Are there any compliance issues/requirements that have impacted operations and/or development plans at your base.

- Jefferson County regulations 5.04 and 5.13 rigorously control repairs involving asbestos. Asbestos operations involve repairs or alterations to the industrial buildings; compliance with Jefferson County regulations is planned as a part of the designs.

- The Jefferson County Hazardous Materials Ordnance requires prompt spill reporting to multiple agencies for many substances. Compliance with the Hazardous Materials Ordnance is integrated into employee training.

- The Kentucky Revised Statutes require that residues from spills must be cleaned to "background" levels before clean closure can be achieved. Compliance with the Kentucky cleanup limitations is involved at the outset. After clean closure is achieved, there is no dispute in subsequent years.

- Due to Jefferson County, KY being in a nonattainment area for ozone, most industrial operations must consider VOC emissions in light of impact on the local airshed. While care must be practiced in selecting materials used in the industrial operations, the overall plans for programs are not radically affected.

7. INSTALLATION RESTORATION

7a.

Does your base have any sites that are contaminated with hazardous substances or petroleum products?	YES
Is your base an NPL site or proposed NPL site?	NO

7b. Provide the following information about your Installation Restoration (IR) program. Project list may be provided in separate table format. Note: List only projects eligible for funding under the Defense Environmental Restoration Account (DERA). Do not include UST compliance projects properly listed in section VI.

Site # or name	Type site [1]	Groundwater Contaminated?	Extends off base?	Drinking Water Source?	Cost to Complete ($M)/Est. Compl. Date	Status[2]/Comments
NE Corner	CERCLA	NO	NO	NO	.05/1996[3]	SI
Old Station Landfill	CERCLA	NO	NO	NO	.05/1996[3]	SI
Abandoned Plating Shop	CERCLA	YES	NO	NO	5.5/2001[3]	RI/FS
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Type site: CERCLA, RCRA corrective action (CA), UST or other (explain)
[2] Status = PA, SI, RI, RD, RA, long term monitoring, etc.

[3] Since the investigations for these sites are not complete, the cost of properly closing the sites cannot be estimated with high confidence. Project costs may be significantly higher than the costs presently identified.

7c. Have any contamination sites been identified for which there is no recognized/accepted remediation process available? List.

- No.

7d.

Is there a groundwater treatment system in place?	NO
Is there a groundwater treatment system planned?	NO

State scope and expected length of pump and treat operation.

- Not Applicable

7e.

Has a RCRA Facilities Assessment been performed for your base?	NO

7f. (con't)
- "O" Building is an enclosed, brick facility (approx. 2000 sq.ft.) that meets the codes for storing flammable materials.

- Building 117, Room 112 is an acid storage room (approx. 560 sq.ft.) inside the plating facility.

- Building 117, Room 113 is a caustic storage room (approx. 650 sq.ft.) inside the plating facility.

- Building 117, Room 114 is a cyanide storage room (approx. 400 sq.ft.) inside the plating facility. This room is equipped with hydrogen cyanide gas detectors.

- There are no permit requirements for these facilities.

7g. Does your base operate any conforming storage facilities for handling hazardous waste? If YES, describe facility, capacity, restrictions, and permit conditions.

- Structure 86 is a Part B permitted storage facility with approximately 7000 sq. ft. of floor space. The concrete floor is bermed to contain a sufficient volume of spillage, if needed. The facility is not completely enclosed which allows for natural ventilation. The facility has explosion-proof lighting and receptacles. The facility has three internal bermed sections to allow for segregation of incompatible wastes.

7h. Is your base responsible for any non-appropriated fund facilities (exchange, gas station) that require cleanup? If so, describe facility/location and cleanup required/status.

- No.

7i.

Do the results of any radiological surveys conducted indicate limitations on future land use? Explain below.	NO

7j. Have any base operations or development plans been restricted due to Installation Restoration considerations?

- Yes, development plans have been frozen until cleanup requirements are identified for the Building 'E' abandoned electroplating facility.

7k. List any other hazardous waste treatment or disposal facilities not included in question 7b above. Include capacity, restrictions and permit conditions.

- None

8. LAND / AIR / WATER USE

8a. List the acreage of each real estate component controlled or managed by your base (e.g.,Main Base - 1,200 acres, Outlying Field - 200 acres, Remote Range - 1,000 acres, remote antenna site - 5 acres, Off-Base Housing Area - 25 acres).

Parcel Descriptor	Acres	Location
Main Base	142.44	5403 Southside Drive, Louisville, KY 40214

8b. Provide the acreage of the land use categories listed in the table below:

LAND USE CATEGORY		ACRES
Total Developed: (administration, operational, housing, recreational, training, etc.)		76.82
Total Undeveloped (areas that are left in their natural state but are under specific environmental development constraints, i.e.: wetlands, endangered species, etc.)		Wetlands: 1.0
		All Others: 0
Total Undeveloped land considered to be without development constraints, but which may have operational/man caused constraints (i.e.: HERO, HERF, HERP, ESQD, AICUZ, etc.) TOTAL		2.0
Total Undeveloped land considered to be without development constraints		62.62
Total Off-base lands held for easements/lease for specific purposes		0
Breakout of undeveloped, restricted areas. Some restricted areas may overlap:	ESQD	0
	HERF	0
	HERP	1.54
	HERO	0
	AICUZ	0
	Airfield Safety Criteria	0
	Other	0.46

8c. How many acres on your base (includes off base sites) are dedicated for training purposes (e.g., vehicular, earth moving, mobilization)? This does not include buildings or interior small arms ranges used for training purposes. 0.

8d. What is the date of your last AICUZ update? N/A. **Are any waivers of airfield safety criteria in effect on your base?** NO. **Summarize the conditions of the waivers below.**

- Not applicable due to no airfield on this base.

8e. List the off-base land use *types* (e.g, residential, industrial, agricultural) and *acreage* within Noise Zones 2 & 3 generated by your flight operations and whether it is compatible/incompatible with AICUZ guidelines on land use.

Acreage/Location/ID	Zones 2 or 3	Land Use	Compatible/ Incompatible
No flight operations on this base	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

8f. List the navigational channels and berthing areas controlled by your base which require maintenance dredging? Include the frequency, volume, current project depth, and costs of the maintenance requirement.

Navigational Channels/ Berthing Areas	Location / Description	Maintenance Dredging Requirement			
		Frequency	Volume (MCY)	Current Project Depth (FT)	Cost ($M)
No Berthing Areas	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

REPRODUCED AT GOVERNMENT EXPENSE

8e. List the off-base land use *types* (e.g, residential, industrial, agricultural) and *acreage* within Noise Zones 2 & 3 generated by your flight operations and whether it is compatible/incompatible with AICUZ guidelines on land use.

Acreage/Location/ID	Zones 2 or 3	Land Use	Compatible/ Incompatible
No flight operations on this base	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

8f. List the navigational channels and berthing areas controlled by your base which require maintenance dredging? Include the frequency, volume, current project depth, and costs of the maintenance requirement.

Navigational Channels/ Berthing Areas	Location / Description	Maintenance Dredging Requirement			
		Frequency	Volume (MCY)	Current Project Depth (FT)	Cost ($M)
No Berthing Areas	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

8g. Summarize planned projects through FY 1997 requiring new channel or berthing area dredged depths, include location, volume and depth.

- Not applicable; see 8f.

8h.

Are there available designated dredge disposal areas for maintenance dredging material? List location, remaining capacity, and future limitations.	NO
Are there available designated dredge disposal areas for new dredge material? List location, remaining capacity, and future limitations.	NO
Are the dredged materials considered contaminated? List known contaminants.	N/A

8i. List any requirements or constraints resulting from consistency with State Coastal Zone Management Plans.

- Not Applicable; Do not reside on or near coast.

8j. Describe any non-point source pollution problems affecting water quality ,e.g.: coastal erosion.

- Not Applicable; do not reside on or near coast

8k.

If the base has a cooperative agreement with the US Fish and Wildlife Service and/or the State Fish and Game Department for conducting a hunting and fishing program, does the agreement or these resources constrain either current or future operations or activities? Explain the nature and extent of restrictions.	NO

8l. List any other areas on your base which are indicated as protected or preserved habitat other than threatened/endangered species that have been listed in Section 1. List the species, whether or not treated, and the acres protected/preserved.

- None

9. WRAPUP

9a. Are there existing or potential environmental showstoppers that have affected or will affect the accomplishment of the installation mission that have not been covered in the previous 8 questions?

- No.

9b. Are there any other environmental permits required for base operations, include any relating to industrial operations.

- An asbestos permit is required for each alteration or demolition involving the removal or repair of asbestos insulation.

9c. Describe any other environmental or encroachment restrictions on base property not covered in the previous 8 sections.

- None.

9d. List any future/proposed laws/regulations or any proposed laws/regulations which will constrain base operations or development plans in any way. Explain.

- None.

DATA CALL #33
LOUISVILLE SITE

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

~~NEXT ECHELON LEVEL (if applicable)~~

~~NAME (Please type or print~~ ~~Signature~~

~~Title~~ ~~Date~~

~~Activity~~

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. Sargent, Jr.
NAME (Please type of print

Signature

Commander
Title

Date 6/3/94

Naval Surface Warfare Center
Activity

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

MAJOR CLAIMANT LEVEL

G. R. STERNER
NAME (Please type or print

Signature

Commander
Naval Sea Systems Command
Title

Date 6/7/94

Activity

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

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

P.W. DRONKEN
NAME (Please type of print

Signature

ACTING
Title

Date 6/24/94

DATA CALL #33
LOUISVILLE SITE

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print)

Signature

COMMANDER
Title

5/25/94
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Signature

Title

Date

Activity

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

MAJOR CLAIMANT LEVEL

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

REPRODUCED AT GOVERNMENT EXPENSE

DATA CALL #33
LOUISVILLE SITE

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

R.W. GILBERT
NAME (Please type of print)

Signature

COMMANDING OFFICER
Title

24 MAY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

Document Separator

NSWC Crane
Louisville

Department of Defense

1995 Base Realignment and Closure T&E Joint Cross-Service Group Data Guidance

March 31, 1994

SUBMITTED BY:
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
LOUISVILLE, KENTUCKY SITE

T&E JOINT CROSS-SERVICE GROUP DATA GUIDANCE

SECTION 1: GUIDANCE, STANDARDS, AND ASSUMPTIONS
1.1 GUIDANCE
1.1.A Guidance for Identification of Test and Evaluation (T&E) Facilities/Capabilities
1.1.B Guidance for Military Department Data Collection
1.1.C Guidance for Military Department Data Analysis
1.2 ASSUMPTIONS
1.3 FUNCTIONAL AREAS
1.3.A Air Vehicles
1.3.B Electronic Combat (EC) Systems
1.3.C Armaments/Weapons

SECTION 2: CAPACITY & TECHNICAL RESOURCES
2.1 WORKLOAD
2.1.A Historical Workload
2.1.B Forecasted Workload
2.2 UNCONSTRAINED CAPACITY
2.3 TECHNICAL RESOURCES

SECTION 3: MEASURES OF MERIT
3.1 OVER-ARCHING MEASURES OF MERIT
3.1.A Interconnectivity
3.1.B Facility Condition
3.1.C Environmental and Encroachment Carrying Capacity
3.1.D Specialized Test Support Facilities and Targets
3.1.E Expandability
3.1.F Uniqueness
3.1.G Available Air, Land, and Sea Space
3.1.H Geographic/Climatological Features
3.2 AIR VEHICLES
3.2.A Supersonic Airspace
3.2.B Airfield and Facility Characteristics
3.2.C Test Operations
3.3 ELECTRONIC COMBAT
3.3.A Threat Environment
3.3.B Test Article Support
3.4 ARMAMENTS/WEAPONS
3.4.A Directed Energy
3.4.B Rocket/Missile/Bomb Systems

T&E JOINT CROSS-SERVICE GROUP

SECTION 1: GUIDANCE, STANDARDS, AND ASSUMPTIONS

The Military Departments will use the following information for data collection on each facility that has performed T&E and is still capable of performing T&E within the three functional areas of air vehicles, electronic combat, and armaments/weapons for any component (hardware or software), subsystem, system, or platform. Guidance is provided on conducting a cross-service analysis.

1.1 GUIDANCE

1.1.A Guidance for Identification of Test and Evaluation (T&E) Facilities / Capabilities

1.1.A.1 Scope

All DoD installations will be examined to identify facilities that have and are still capable of performing T&E within the three functional areas of air vehicles, electronic combat, and armaments/weapons.

All facilities (tenant and host on the installation) owned by DoD are within scope of this examination.

The Military Departments and Defense Agencies are responsible for submitting the data.

The scope of this examination will include T&E facilities that are funded from any funding source and appropriation (RDT&E, procurement, O&M, training, etc.).

1.1.A.2 T&E Facilities / Capabilities

The definition of a T&E facility/capability to be used for purposes of data collection will be a set of DoD-owned or controlled property (air/land/sea space) or any collection of equipment, platforms, ADPE or instrumentation that can conduct a T&E operation and provide a deliverable T&E product.

The T&E facility can support T&E of components through systems platforms or missions in the following functional areas: air, land, sea, space, C4I, armaments/weapons, electronic combat, nuclear effects, chem/bio, propulsion, environmental effects, guidance, and materials.

The T&E facilities will be grouped under one of the following test facility categories: modeling and simulation, measurement, integration laboratory, hardware-in-the-loop, installed systems, or open air (See Appendix A for definitions). It will typically consist of all of the following components: data collection sensors and instrumentation, data reception and storage, data processing, and data display and reporting.

The scope will include T&E operations from all funding sources (RDT&E, procurement, O&M, training, etc.).

1.1.B Guidance for Military Department Data Collection

The Military Departments will use the T&E facility/capability definitions included within this data call package. In your descriptions of facility technical capabilities include programmed investments/upgrades in Military Department or Defense Agency 1995 Future Years Defense Plan (FY95 FYDP) in support of the President's Budget (PB95). When calculating capacity data, use the guidelines/definitions included in this package.

Data will be collected on all facilities/capabilities that are within the scope defined in section 1.1.A. Data will be collected using Appendix A, Data Forms and Instructions

1.1.C Guidance for Military Department Data Analysis

The Military Departments will use the 95 FYDP as the baseline to calculate costs and savings. Address closure/realignment opportunities at the functional T&E and facility levels. Retain essential technical capabilities for core competencies and technologies. Consider consolidation of subfunctions such as centralized maintenance of common platforms, instrumentation, data processing. Consider retention of difficult-to-replace essential geographic assets (e.g. airspace, ground/terrain, climates, seaports) without regard to "ownership". Recognize adaptability to future technologies. Do not consider environmental cleanup costs/difficulties for closure or downsizing a facility/capability.

1.2 ASSUMPTIONS

Cross-service analyses will use the following assumptions:

1.2.A T&E workload is not a direct function of force structure, but is related to the RDT&E budget and acquisition funding.

1.2.B The FYDP is considered certified data. Information from non-DoD activities will not be used as a basis for analyses.

1.2.C At least one test facility/capability will be required to address any technology in use or nearing maturation. Geographic assets (airspace, ground space, sea space, terrain, climate, physical security) must be adequate. Closure or realignments of laboratories, maintenance depots, and training activities could necessitate consolidation with T&E facilities/capabilities.

1.2.D Evaluation of developing technologies and systems will follow a process that involves a progression of test facilities/capabilities ranging from modeling and simulation, measurements, through hardware-in-the-loop, system integration laboratories, installed-systems, to open air/range testing.

1.2.E Potential for internetting facilities/capabilities can be considered in

workload projections if investments to provide internetting capability are programmed.

1.2.F With regard to outsourcing, it will be assumed that work currently performed in-house will remain in-house and that work currently outsourced will remain outsourced.

1.2.G With regard to foreign military sales (FMS), it will be assumed that the FMS workload will continue at FY93 levels into the future (straight-lined).

1.3 FUNCTIONAL AREAS

Three functional areas of T&E facilities/capabilities were selected for specific emphasis during cross-service analyses following analysis of the T&E Reliance study areas. These three areas -- air vehicles, electronic combat, and armament/weapons -- show the greatest potential for cross-service consolidation opportunities; others are predominately or nearly Military Department unique.

Over-arching measures of merit have been developed that are applicable to many T&E facilities/capabilities across the three functional areas. These measures generally relate to the overall demographics of the facility/capability at an installation and are important to evaluating a facility/capability for: overall condition; potential to support current or future contingency, mobilization and future missions; additional workload; and overall Mission Essentiality. Additional data specific to the three functional areas will also be collected. For the purpose of this data collection, the three functional areas are defined as follows:

1.3.A Air Vehicles

This functional area includes facilities involved in the testing of all air vehicles/subsystems/components whether fixed wing or rotary wing and test of major sub-systems (e.g., avionics, engines, and sensors). This includes flight testing and the testing involving pre- and post-flight preparation and processing

of the air vehicle. Unmanned air vehicles and cruise missiles are included.

1.3.B Electronic Combat (EC) Systems

This functional area includes facilities involved in the testing of stand-alone electronic combat systems and electronic combat subsystems that are normally integrated into other weapon systems. It includes the testing of systems or subsystems that have as their primary mission threat warning, testing of systems that provide countermeasures in the RF (radio frequency) spectrum against radars and other RF sensors, systems that provide countermeasures that are used against sensors in the electro-optical or infrared spectrum as well as testing of electronic and C3 countermeasures.

1.3.C Armaments / Weapons

This functional area includes facilities involved in the testing of the weapons portion of a weapon system. In those cases where the weapon system is composed almost exclusively of the weapon, it may include system-level and platform integration testing. In other cases, it addresses just the weapon subsystem (e.g., guidance and control, propulsion, warheads, and airframe), while the testing of the weapon system's vehicle is in another functional area.

SECTION 2: CAPACITY & TECHNICAL RESOURCES

Use the forms and accompanying instructions in appendix A to provide answers for this section.

2.1 WORKLOAD

Annual workload will be reported in units as follows: for open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available,

missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity on page 28.

2.1.A Historical Workload

-2.1.A.1 What amount of workload have you performed each year from FY86-93? Use the Historical Workload Form provided in Appendix A of this package.

2.1.B Forecasted Workload

-2.1.B.1 Identify all appropriations (by program element) that generated a requirement for testing or test support, or are expected to generate a requirement for testing/test support in your Military Department (by functional areas of air vehicles, electronic combat (EC), armament/ weapons, and other test) for FY92, FY93, and each year in the FY95 FYDP. The Military Departments will provide total funding amounts appropriated for all PEs identified in each functional area shown above.

-2.1.B.2 What amount of test work was performed at your facility (in workyears by functional areas of air vehicles, electronic combat, armament/weapons, other tests, and other) in FY92 & FY93?

NA

2.2 UNCONSTRAINED CAPACITY

-2.2.A Unconstrained capacity is the maximum capacity of this facility, assuming manpower and consumable supplies (excluding utilities) are unlimited, but allowing for expected downtime (maintenance, weather, darkness (daylight), holidays, etc.). Provide your response by filling out the Determination of Unconstrained Capacity Form in accordance with the instructions in Appendix A.

-2.2.B Is this capacity limited by the physical characteristics of the facility itself, safety or health considerations, commercial utility availability, etc?

NA

2.3 TECHNICAL RESOURCES

-2.3.A Does the facility have a specified war-time or contingency role established in approved war plans? Yes/no.

NA

-2.3.B Does the facility provide a T&E product or service, without which irreparable harm would be imposed on the test mission of the host installation?

NA

-2.3.B.1 On the test mission of any other activity?

NA

-2.3.B.2 On any other mission deemed critical to the operational effectiveness of the armed forces of the United States?

NA

SECTION 3: MEASURES OF MERIT

This section relates the measures of merit and the required data to the four criteria that have been established for Military Value. The four military value (MV) criteria are:

CRITERION 1: The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.

CRITERION 2: The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.

CRITERION 3: The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.

CRITERION 4: The cost and manpower implications.

3.1 OVER-ARCHING MEASURES OF MERIT

The over-arching measures of merit are listed with accompanying questions (or data requirements) intended to elicit standard information upon which the cross-service analyses can be based, and on which the Joint Cross-Service Groups can base their reviews of the Military Department analyses. Additional specific measures of merit are shown under individual functional areas. The numbers in parentheses () before each measure of merit indicate the BRAC selection criteria for military value.

3.1.A. Interconnectivity (MV I) - Measure of Merit: *Extent of linkage of this facility with other facilities and assessment of single-node failure potential.*

-3.1.A.1 What percentage of total test workload in FY93 involved the real-time or near real time exchange of data or control with another facility? List the facilities you interconnect to for test and identify how many are simultaneous activities. Identify these as to whether they are internal and external to the site.

NA

-3.1.A.2 If your facility were to be closed, would there be an impact on other facilities to which you are connected? Yes/no. If yes, explain.

NA

3.1.B Facility Condition (MV II) - Measure of merit: *Current and planned status of the T&E facilities for supporting assigned test missions.*
Fill out the Facility Condition Form in Appendix A in accordance with the instructions.

3.1.C Environmental and Encroachment Carrying Capacity (MV II) - Measure of Merit: *Extent of current and future potential environmental and encroachment impacts on air, land, and sea space for testing.*

- 3.1.C.1 Do you have limiting (current or future) environmental and/or encroachment characteristics associated with the installation/facility? Yes/no. If yes, explain.

NA

- 3.1.C.2 How much could workload be increased before this limit would be reached? Express your answer as a percentage of your current workload.

NA

- **3.1.C.3** Do you currently operate under temporary permits of an environmental nature, or voluntary agreements (including treaties) of any sort that deal with the environment? If so, when do they expire? Please describe.

NA

- **3.1.C.4** What is the total population within a 50 mile radius? 100 mile radius? 150 mile radius? 200 mile radius?

NA

- **3.1.C.5** Identify the commercial air/land/sea traffic routes, public use of air/land/sea space, and frequency of use for each that affects or could affect mission accomplishment in your air, land, or sea space.

NA

- **3.1.C.5.A** How many test missions per year are canceled due to commercial or public use?

NA

- **3.1.C.6** What is the number of test missions that have been canceled due to encroachment in each of the last two years?

NA

3.1.D Specialized Test Support Facilities and Targets (MV I) - Measure of Merit: *Extent to which specialized test support facilities and targets are available.*

NA

-3.1.D.1 Do you have specialized facilities are required to support you in conducting your test operations at your facility (e.g. Aerial delivery load build-up facilities; parachute drying towers/packing facilities; paratroop support facilities; specialized fuel storage and delivery systems; mission planning facilities; corrosion control, painting, washing facilities; and specialized maintenance facilities such as avionics intermediate shops)? Yes/no. If yes, please describe.

NA

-3.1.D.2 Are specialized targets required to support this facility? Yes/no. If yes, explain.

NA

-3.1.D.2.A Have the specialized targets been validated? Yes/no. If yes, by whom?

NA

3.1.E Expandability (MV III) - Measure of Merit: *Extent to which an installation/facility is able to expand to accommodate additional workload or new missions.*

NA

-3.1.E.1 Other than the expandability inherent in unconstrained capacity, discussed earlier, are there any special aspects of this facility that enhance its ability to expand output within each T&E functional area? Yes/no. If yes, explain.

NA

-3.1.E.1.A Can you accept new T&E workload different from what you are currently performing? Yes/no. If yes, identify by T&E functional area and test type.

NA

-3.1.E.2 Are airspace, land, and water areas--adjacent to areas under DoD control--available and/or suited for physical expansion to support new missions or increased footprints? Yes/no. If yes, please explain.

NA

-3.1.E.3 Is the facility equipped to support secure operations? Yes/no. If yes, to what level of classification (Confidential, Secret, Top Secret, Special Access Required)?

NA

-3.1.E.4 Are there any capital improvements underway or programmed in the 95 FYDP, that would change your capacity/capability? Yes/no. If yes, explain.

NA

3.1.F Uniqueness (MV I) - Measure of Merit: *Extent to which the facility is one-of-a kind.*

NA

-3.1.F.1 Is this a one-of-a-kind facility within the DoD? Yes/no. If yes, describe.

NA

-3.1.F.1.A Within the US Government? Yes/no. If yes, describe.

NA

-3.1.F.1.B Within the US? Yes/no. If yes, describe.

NA

-3.1.F.2 Are you currently providing support to DoD users outside your Military Department? Yes/no. If yes, indicate percentage of total workload in FY92 and FY93 by Military Department.

NA

3.1.G Available Air, Land, and Sea Space (MV II) - Measure of Merit: *Extent to which controlled test ranges satisfy weapon system test requirements.*

NA

-3.1.G.1 How many square miles of air, land, and sea space are available to support test operations?

NA

-3.1.G.2 Who owns and or controls the land under the restricted airspace you use?

NA

-3.1.G.3 How much of this is Restricted Airspace, and what altitude limits are associated with the restricted areas?

NA

-3.1.G.4 Do you have special use airspace other than supersonic airspace? Yes/no. If yes, for what types of test (e.g. terrain following radar)? Dimensions? Will it support simultaneous users? Yes/no.

NA

-3.1.G.5 Is the airspace over land or water? List the number of square miles over each.

NA

-3.1.G.6 Identify known or projected airspace problems that may prevent accomplishing your mission.

NA

-3.1.G.7 What is the maximum straight line segment in your airspace in nautical miles?

NA

-3.1.G.8 What public airspace have you used for overflight of weapons systems in the past? What was the nature of those tests? Do you anticipate being able to use that same public airspace for similar tests in the future? Yes/no.

NA

3.1.H Geographic/Climatological Features (MV II) - Measure of Merit: *Extent to which types of climatic/geographic conditions represent world-wide operational conditions.*

NA

-3.1.H.1 Describe the topography and ground cover/vegetation within your test

airspace (include nap-of-the-earth capability). Identify all of the following that apply: mountains, forest/jungle, cultivated lowland, swamp/riverine, desert, and sea. State the area of each in square miles.

NA

-3.1.H.2 Are there features of the local geology or soil conditions that enhance or inhibit any types of test?

NA

-3.1.H.3 Did you have to go to other geographical locations to satisfy test requirements? Yes/no and explain. If yes, provide as a percent of overall workload per year for the past 8 years.

NA

-3.1.H.4 What is the number of days per year the average temperature is below 32 degrees F? Between 32 and 95 degrees? Above 95 degrees?

NA

-3.1.H.5 What is the number of days per year the average relative humidity is below 30%? Between 30 and 80%? Above 80%?

NA

-3.1.H.6 What is the number of test missions per year (1985 - 1993) canceled due to weather?

NA

-3.1.H.7 What is the number of test days per year (1985 - 1993) canceled due to weather?

NA

-3.1.H.8 What is the number of days per year the visibility is less than 1 mile? Between 1 and 3 miles? Greater than 3 miles?

NA

-3.1.H.9 What is the average number of flying days available per year for flight test? Provide historical average from the past eight years.

NA

-3.1.H.10 What percentage of the time are your test operations restricted due to weather?

NA

3.2 AIR VEHICLES

This functional area includes facilities involved in the testing of all air vehicles/subsystems/components whether fixed wing or rotary wing and test of major subsystems (e.g., avionics, engines, and sensors). This includes flight testing and the testing involving pre- and post-flight preparation and processing of the air vehicle. Unmanned air vehicles and cruise missiles are included.

3.2.A Supersonic Airspace (MV II) - Measure of Merit: *Extent of range size to support weapon system requirements.*

NA

-3.2.A.1 Do supersonic corridors or areas exist? Yes/no.

NA

-3.2.A.2 Where are they located relative to your airfield?

NA

-3.2.A.3 At what altitude (upper and lower altitude)?

NA

-3.2.A.4 Over land or water? What size and shape (length and width)?

NA

-3.2.A.5 Are there restrictions you must observe to use this space? Yes/no. If yes, explain.

NA

-3.2.A.6 What is the maximum number of simultaneous users?

NA

-3.2.B Airfield and Facility Characteristics (MV II) - Measure of Merit: *Extent of air vehicle infrastructure to support T&E operations.*

NA

-3.2.B.1 Provide a brief description of your airfield and support facilities, to include the following: number and azimuth of runways, elevation, runway length (excluding overrun), overrun length, terminal and/or landing aids, arresting cable (yes/no, type), ramp area (in square feet), construction material (runway and ramps), load capability, and hangar space.

NA

-3.2.B.2 How close and how many emergency runways or airfields are in your area of operation?

NA

-3.2.B.3 Where is your airfield situated relative to working areas (airspace) for supporting test operations?

NA

-3.2.B.4 What makes your airfield unique or at least suited for supporting test operations?

NA

-3.2.B.5 Is there a size, weight, maintenance or mission limitation that would affect test operations? If so, describe the limitation(s).

NA

-3.2.B.6 Including hangers and ramp space, how many fighter size aircraft could you support? Large multi-engine aircraft? Rotary wing? UAV? Cruise missiles?

NA

-3.2.C Test Operations (MV II) - Measure of Merit: *Extent of T&E operations that the airspace can accommodate.*

NA

-3.2.C.1 What types of air vehicle testing (fixed wing, rotary wing, unmanned vehicles, and cruise missiles) can be supported? (e.g. performance, handling qualities, fatigue life, static, wheels and brakes, physical integration with external stores or avionics)

NA

-3.2.C.2 Do ground support facilities exist for pre-flight checkout or rehearsal of test missions?

NA

-3.2.C.3 What kinds, numbers of aircraft and mix can be supported (manned and unmanned)?

NA

-3.2.C.4 Does UAV and or rotary wing operations pose any limitation on other types of missions? If yes, explain.

NA

-3.2.C.5 What sorts of missions (e.g. air-to-air, air-to-ground and refueling) can be flown within local airspace?

NA

-3.2.C.6 What is the maximum number of simultaneous missions you can support that require telemetry?

NA

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

NA

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

3.3 ELECTRONIC COMBAT

This functional area includes facilities involved in the testing of stand-alone electronic combat systems and electronic combat subsystems that are normally integrated into other weapon systems. It includes the testing of systems or subsystems that have as their primary mission threat warning, testing of systems that provide countermeasures in the RF (radio frequency) spectrum against radars and other RF sensors, systems that provide countermeasures that are used against sensors in the electro-optical or infrared spectrum as well as testing of electronic and C3 countermeasures.

3.3.A Threat Environment (MV I) - Measure of Merit: *Extent to which the capability satisfies weapon system requirements.*

NA

-3.3.A.1 What is the number of threats simulated?

NA

-3.3.A.2 How many simultaneous threats can be simulated? What type (e.g. AI, AAA, SAM)? What is maximum signal density? Average density? What power level? What band? Radiated or injected?

NA

-3.3.A.3 Are the threat software models and simulators (software/hardware)

validated? Yes/no. If yes, by whom?

NA

-3.3.A.4 Do you conduct open loop testing? Reactive? Closed loop? Yes/no for each.

NA

-3.3.A.5 What is the threat representation (fidelity) and density?

NA

-3.3.A.6 Are you capable of simulating land threats? Sea threats? Combined land/sea threats? Yes/no. If yes, describe.

NA

-3.3.A.7 What geographic dispersion can be simulated?

NA

-3.3.A.7.A Threat lay down? **NA**
-3.3.A.7.B Representative distance? **NA**

-3.3.A.8 Are the threats moveable (i.e.dynamic) within a test scenario? relocatable to new scenarios? yes/no

NA

-3.3.A.9 Is the facility interlinked with off-site threats? Yes/no. If yes, how are you linked?

NA

-3.3.A.10 Is there a limit on simultaneous users? Yes/no. If no, explain.

NA

3.3.B Test Article Support (MV II) - Measure of Merit: *Extent to which test support satisfies weapon system test requirements.*

NA

-3.3.B.1 Is there a size, weight, or other limitation on test operations the facility can support? Yes/no. If so, identify the limits and measures to remove them.

NA

-3.3.B.2 What is the number of simultaneous countermeasures that can be evaluated?

NA

-3.3.B.3 What range of spectra can be tested and evaluated?

NA

-3.3.B.4 What are the available spectra?

NA

-3.3.B.5 Do you have a scene generation capability? Yes/no. If yes, describe.

NA

3.4 ARMAMENTS / WEAPONS

This functional area includes facilities involved in the testing of the weapons portion of a weapon system. In those cases where the weapon system is composed almost exclusively of the weapon, it may include system-level and platform integration testing. In other cases, it addresses just the weapon subsystem (e.g., guidance and control, propulsion, warheads, and airframe), while the testing of the weapon system's vehicle is in another functional area.

3.4.A Directed Energy (MV II) - Measure of Merit: *Extent to which the facility satisfies directed energy weapon system test requirements.*
This includes testing of all types of directed energy weapons.

NA

-3.4.A.1 Do you currently test directed energy weapon systems? Yes/no. If yes, explain. Describe the power source(s) you have available. What is your maximum downrange distance?

NA

3.4.B Rocket / Missile / Bomb Systems (MV II) - Measure of Merit: *Extent capability satisfies weapon system test requirements.*
This includes the testing of all types of rocket, missile, and bomb systems at the system/subsystem/component level, both stand alone and integrated into the launch platform. This includes testing of air-to-air, air-to-surface, and surface-to-air missiles.

NA

-3.4.B.1 Ground Space

-3.4.B.1.A What is the area in square miles of the land and water space which you can use to conduct tests of live rocket, missile, or bomb systems?
NA
-3.4.B.1.B How many separate and distinct land and water test areas are available to conduct tests of live weapons? List them and the size of each in

acres.

NA

-3.4.B.1.C What are the maximum ranges (nautical miles) you can test, by type weapon?

NA

3.4.B.2 Test Operations

-3.4.B.2.A For each of your land and water ranges, how many test missions were scheduled in FY92 and FY93 that were required to use safety footprints comparable to those required for the following types of weapons:

--Unguided 2000 pound-class ballistic weapon
---live? **NA**
---inert? **NA**
--Guided weapon (e.g., GBU-24 class)
---live? **NA**
---inert? **NA**
--Stand-off weapon (e.g., AGM-130 class)
---live? **NA**
---inert? **NA**
--Short-range missile (e.g., AIM-9)
---below 5000 feet MSL **NA**
---between 5000 and 20,000 feet MSL **NA**
---above 20,000 feet MSL **NA**
--Long-range missile (e.g., AIM-120)
---below 5000 feet MSL **NA**
---between 5000 and 20,000 feet MSL **NA**
---above 20,000 feet MSL **NA**

-3.4.B.2.B Were flight termination systems required? Yes/no.

NA

-3.4.B.2.C If no missions were scheduled in a category, give the reason(s).

NA

-3.4.B.2.D Were any scheduled missions canceled before the mission, or terminated/aborted during the mission because of encroachments into the safety footprint? Yes/no. If yes, how many per year.

NA

APPENDIX A - DATA FORMS AND INSTRUCTIONS

1. Form, General Information

Facility/Capability: Enter the descriptive title for the facility/capability. Avoid using acronyms and abbreviations unless the title defines the acronym. Example: Guided Weapons Evaluation Facility (GWEF).

Origin date: Enter today's date in the format MM/DD/YY.

Military Department: Allowable entries include "N" for Navy, "A" for Army, and "AF" for Air Force. If the facility/capability is managed by an "Other Government Agency" (e.g. ARPA, DNA, ACC) enter the appropriate Agency name.

Organization/Activity: Enter the name (with acronym) for the field activity. Example: White Sands Missile Range (WSMR).

Location: Enter the location where the facility/capability is physically located (installation, city or other common name).

Unit Identification Code (UIC): Enter the UIC.

T&E Functional Area: Enter the single area this facility/capability primarily supports: Air Vehicles, Armament/Weapons, Electronic Combat, or Other.

T&E Test Facility Category: Enter the facility category based on the following definitions:

(1) Digital Models and Computer Simulations (DMS)- Those models and simulations which either provide a simulated test environment or representations of systems, components, and platforms. DMSs are used throughout the development and test process, as analytical tools, as well as tools to drive or

control electronic and other environmental stimuli provided, the test articles on Open Air Ranges (OARs), Installed Systems Test Facilities (ISTFs), Hardware in the Loop Test Facilities (HITLs), Integration Laboratories (ILs), and Measurement Facilities (MFs).

(2) Measurement Facilities (MF)- Those facilities used to provide a specialized test environment and/or data collection capability. MFs may be ground based laboratories or open air facilities (often located at or part of OARs).

(3) Integration Laboratories (IL)- Those facilities designed to support the integration and test of various systems and components that will be installed in a host platform. ILs are generally platform specific or unique. However, the simulated stimuli and data collection capabilities required by ILs are often common with those required by HITLS and ISTFs.

(4) Hardware-In-The-Loop (HITL)- Those facilities which provide capabilities to test systems or their components at various stages of development (e.g., brassboard, breadboard, prototype, preproduction, production). HITLs provide stimuli and data collection capabilities to permit test and evaluation of a system/component independent of the host platform.

(5) Installed Systems Test Facilities (ISTF)- Ground based test facilities (usually chambers) that allow test of systems and weapons as installed in the combat platform. ISTFs provide simulated test environments and stimuli and data collection capabilities for the test article(s).

(6) Open Air Ranges (OAR)- Those facilities which consist of controlled or restricted areas to support the test of platforms/systems in a real world, dynamic environment. They are instrumented with data collection, time-space-position information, positive control of test participants, and real or simulated targets and threats as appropriate.

Percentage Use: Enter percentage of time, based on hours, the facility is used to support each of the following (total must sum to 100%):

(1) Test and Evaluation (T&E)- Any facility that is accountable to Military Department and/or OSD T&E management oversight. Operation and sustainment of these facilities are typically funded from 6.5 or procurement program elements. Facilities in this category were developed to support developmental and/or operational test and evaluation and focus on the evaluation of system safety, technical performance, environmental (climatic, electromagnetic, etc.) effects, sustainability and operational suitability, maturity of production processes, and compliance with system specifications and quality standards.

(2) Science & Technology (S&T)- Any facility that is accountable to Military Department and/or OSD S&T management oversight. Operation and sustainment of these facilities are typically funded from 6.1, 6.2, and 6.3a program elements. Facilities in this category were developed to support experimental studies leading to enhanced understanding of new phenomena for new military applications as well as efforts directed toward the solution of problems in the physical, behavioral, and social sciences.

(3) Developmental Engineering (DE)- Any facility that is accountable to Military Department and/or OSD Research, Development and Engineering or acquisition management oversight. Operation and sustainment of these facilities are typically funded from 6.3b through 6.4 or procurement program elements. Facilities in this category were developed to support proof-of-principle and engineering development of systems.

(4) In-Service Engineering (IE)- Any facility that is accountable to Military Department and/or OSD logistics management oversight. Operation and sustainment of these facilities are typically funded from 6.7 or Operations and Maintenance (O&M) program elements. Facilities in this category were developed to support the maintenance facilities. These facilities tend to be system peculiar capabilities to conduct checkouts of the system/subsystems after they have undergone a modification, upgrade or improvement.

(5) Training and Doctrine (T&D)- Any facility that is accountable to Military Department and/or OSD training and doctrine management oversight. Operation and sustainment of these facilities are typically funded from O&M

program elements. Facilities in this category were developed to support the training and proficiency of operational forces and/or the development of new tactics, doctrine or force structure concepts.

(6) Other - Any work outside the above.

Breakout by T&E Functional Area: For each of the above categories (T&E, S&T, DE, IE, T&D, Other) enter percentage of time facility is used to support Air Vehicles, Armament/Weapons, Electronic Combat, or Other. Total of breakout areas must sum to top line percentage.

2. Form, Technical Information

Facility Description: Enter a brief description of the facility, including the mission statement.

Interconnectivity/Multi-Use of Facility: Describe any linking/interconnectivity with other T&E facilities. Include physical and/or data linkages (bandwidth, data rate, etc.). Describe any unique characteristics or multiple use of the resource (e.g., operating by rotating crew, availability of resource dependent on ..., equipment will be obsolete by ..., etc.)

Type Tests Supported: Enter specific types of tests accomplished by the Facility (e.g., electromagnetic compatibility, radar cross section, missile miss distance, air-to-air radar simulation, etc).

Summary of Technical Capabilities: Describe technical capabilities at your facility to include:

Instrumentation/Assets: Enter instrumentation and other assets (e.g., jammers, target generators, recording equipment, computer support equipment) associated with the resource.

Provide fact sheets, not to exceed two pages.

Keywords: Enter any keywords (spelled-out with acronyms) associated with functions and capabilities of the facility (e.g., electromagnetic interference/electromagnetic compatibility (EMI/EMC), anechoic chamber, radar cross section (RCS)).

3. Form, Additional Information

Additional Information Form. Enter facility name. Provide personnel numbers for FY93, FY94, and each year in the FY95 FYDP broken out according to officers, enlisted, civilians and contractors. Enter total area square footage of indoor space, test area square footage of indoor space used for T&E purposes, and list office space square footage separately. Tonnage of equipment is the weight of all equipment associated with this facility. Volume of equipment is the volume of all equipment associated with this facility. Annual maintenance cost is self explanatory. Moving costs are estimates for packing equipment at the losing site and reassembly, calibration, etc at the receiving site, not including transportation costs. Capital equipment investments are the current improvement and modernization funds as well as any programs funds earmarked for equipment purchase.

4. Form, Facility Condition

Facility/Capability: Enter the descriptive title for the facility/capability.

Age: Indicate the age of the facility/capability as of the date on the General Information Form.

Replacement Value: Enter the replacement value for the facility/capability. Indicate whether this includes the replacement cost for the equipment.

Maintenance and Repair Backlog: Enter the total dollar amount of the backlog for maintenance and repair items.

Date of Last Upgrade: Date of the last major upgrade to the facility.

Nature of Last Upgrade: Describe the purpose and capability increase from the last major upgrade. Indicate the date this upgrade became available for use.

Major Upgrades Programmed: Enter information on each of the major upgrades that are programmed. Indicate the total programmed amount and provide a summary description of the upgrade.

5. Form, Historical Workload

Use this form to report the workload performed at this facility each year from FY86-93.

Facility/Capability Title: Enter the descriptive title for the facility/capability. Avoid using acronyms and abbreviations unless the title defines the acronym. Example: Guided Weapons Evaluation Facility (GWEF).

T&E Functional Area: For each of these functional areas (Air Vehicles, Armament/Weapons, Electronic Combat, Other Test, and Other), enter direct labor hours, test hours, and/or missions for FY86 through FY93. For open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available, missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity on page 28.

6. Form, Determination of Unconstrained Capacity

Annual Hours of Downtime, 1: If the facility were required to operate continuously for 24 hours a day, seven days a week, 52 weeks a year, determine the number of hours per day the facility can reasonably operate if it is not constrained by personnel strength? Consider your facilities, equipment, and instrumentation fixed at current levels.

1. Add up the total hours of downtime per year for maintenance, weather, darkness (daylight), holidays, etc. Enter in line 1.

Average Downtime Per Day, 2: Divide line 1 by 365 to get the average downtime per day. Fill in at line 2.

Average Hours Available Per Day, 3: Subtract line 2 from 24 hours to get the average number of hours per day the facility is available for test. Fill in at line 3.

Analyze your historic workload mix to determine the average number and type of tests that have been run simultaneously at your facility. Determine the maximum number of tests that can be run simultaneously if there is no limit to personnel authorizations. Enter the following data from your analysis

Test Types, 4: Enter in column 4 the name of the type of test.

Tests at One Time, 5: List the number of each type of test that can be conducted simultaneously in column 5.

Workload Per Test
Per Facility Hour, 6: List the workload (reported in units as follows: For open air range flight testing, report workload in flight hours and numbers of missions. For all other test facility categories, including open air range other than flight testing, report workload in direct labor hours) represented by each hour the test is run. Do this at line 6.

From the historic workload analysis, determine the average workload per facility hour represented by the average or "typical" test. In the row titled "TYPICAL", in column 5, enter the number of these "typical" tests that can be run in addition to those already listed above. Enter the workload per "typical" test per facility hour in column 6. To estimate test hours from direct labor hours for the Historic Workload Form, divide the facility workload by this number (the number of direct labor hours per "typical" test per facility hour) and enter in the test hour block on the Historic Workload Form.

Workload Per
Facility Hour, 7: Multiply column 5 by column 6. Enter in column 7. Total column 7.

Unconstrained
Capacity Per Day, 8: Multiply the total from column 7 by line 3 to get the unconstrained capacity per average day. Enter in line 8.

Annual
Unconstrained
Capacity, 9: Multiply line 8 by 365 to get the unconstrained capacity per year for the facility. Enter on line 9.

FACILITY CONDITION

FACILITY/CAPABILITY TITLE: NA

AGE: NA REPLACEMENT VALUE: NA

MAINTENANCE AND REPAIR BACKLOG: NA

DATE OF LAST UPGRADE: NA

NATURE OF LAST UPGRADE: NA

MAJOR UPGRADES PROGRAMMED

1. UPGRADE TITLE: NA

   TOTAL PROGRAMMED AMOUNT: NA
   SUMMARY DESCRIPTION: NA

2. UPGRADE TITLE: NA

   TOTAL PROGRAMMED AMOUNT: NA
   SUMMARY DESCRIPTION: NA

HISTORICAL WORKLOAD

FACILITY/CAPABILITY TITLE: NA

		FISCAL YEAR							
T&E FUNCTIONAL AREA		86	87	88	89	90	91	92	93
AIR VEHICLES	DIRECT LABOR	NA	NA	NA	NA	NA	NA	NA	NA
NA	TEST HOURS	NA	NA	NA	NA	NA	NA	NA	NA
	MISSIONS	NA	NA	NA	NA	NA	NA	NA	NA
EC	DIRECT LABOR	NA	NA	NA	NA	NA	NA	NA	NA
NA	TEST HOURS	NA	NA	NA	NA	NA	NA	NA	NA
	MISSIONS	NA	NA	NA	NA	NA	NA	NA	NA
ARMAMENT/WEAPONS	DIRECT LABOR	NA	NA	NA	NA	NA	NA	NA	NA
NA	TEST HOURS	NA	NA	NA	NA	NA	NA	NA	NA
	MISSIONS	NA	NA	NA	NA	NA	NA	NA	NA
OTHER T&E	DIRECT LABOR	NA	NA	NA	NA	NA	NA	NA	NA
NA	TEST HOURS	NA	NA	NA	NA	NA	NA	NA	NA
	MISSIONS	NA	NA	NA	NA	NA	NA	NA	NA
OTHER	DIRECT LABOR	NA	NA	NA	NA	NA	NA	NA	NA
NA	TEST HOURS	NA	NA	NA	NA	NA	NA	NA	NA
	MISSIONS	NA	NA	NA	NA	NA	NA	NA	NA

DETERMINATION OF UNCONSTRAINED CAPACITY

FACILITY/CAPABILITY TITLE: NA

ANNUAL HOURS OF DOWNTIME 1 NA
AVERAGE DOWNTIME PER DAY (LINE 1÷ 365) 2 NA
AVERAGE HOURS AVAILABLE PER DAY (24 - LINE 2) 3 NA

TEST TYPES	TESTS AT ONE TIME	WORKLOAD PER TEST PER FACILITY HOUR	WORKLOAD PER FACILITY HOUR	UNCONSTRAINED CAPACITY PER DAY (LINE 3 X TOTAL Σ)
4	5	6	7	8 NA
NA	NA	NA	NA	
NA	NA	NA	NA	ANNUAL UNCONSTRAINED CAPACITY
NA	NA	NA	NA	9 NA
NA	NA	NA	NA	
NA	NA	NA	NA	
TYPICAL	NA	NA	NA	
			TOTAL Σ NA	

TECHNICAL INFORMATION

Facility/Capability Title: NA

Facility Description; Including mission statement: NA
Interconnectivity/Mulit-Use of T&E Facility: NA
Type of Test Supported: NA
Summary of Technical Capabilities: NA
Keywords: NA

GENERAL INFORMATION

Facility/Capability Title: NA

Origin Date: MAY 6, 1994

Service: NAVY Organization/Activity: NSWC, LOUISVILLE Location: LOUISVILLE, KENTUCKY

T&E Functional Area: NA UIC = 00197

T&E Test Facility Category NA

	T&E	S&T	D&E	IE	T&D	OTHER
=100% PERCENTAGE USE:	NA	NA	NA	NA	NA	NA
BREAKOUT BY T&E FUNCTIONAL AREA (%)						
Air Vehicles	NA	NA	NA	NA	NA	NA
Armanent/Weapons	NA	NA	NA	NA	NA	NA
EC	NA	NA	NA	NA	NA	NA
Other	NA	NA	NA	NA	NA	NA

Total in Breakout Must Equal "Percentage Use" On First Line

NSWC CRANE DIV, LOUISVILLE
DATA CALL #13

JL
SEA09X
5/12/94

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print

Signature

COMMANDER
Title

6 MAY, 1994
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (SEL) D.P. SARGENT, JR.
NAME (Please type of print

Signature

COMMANDER
Title

5/11/94
Date

NAVAL SURFACE WARFARE CENTER
Activity

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

MAJOR CLAIMANT LEVEL

J. R. STERNER
NAME (Please type or print

Signature

Commander
Naval Sea Systems Command
Title

5-13-94
Date

Activity

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

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

J. B. GREENE JR
NAME (Please type of print

Signature

ACTING
Title

23 MAY 1994
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

R.W. GILBERT
NAME (Please type of print)

Signature

COMMANDING OFFICER
Title

6 MAY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

Document Separator

DATA CALL 66
INSTALLATION RESOURCES

Activity Information:

Activity Name:	NSWC LOUISVILLE
UIC:	N00197
Host Activity Name (if response is for a tenant activity):	N/A
Host Activity UIC:	N/A

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

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

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

lines to the table (following line 2j., as necessary, to identify any additional cost elements not currently shown). **Leave shaded areas of table blank.**

Table 1A - Base Operating Support Costs (Other Than DBOF Overhead)			
Activity Name: NSWC Louisville		**UIC:** N00197	
Category	**FY 1996 BOS Costs ($000)**		
	Non-Labor	**Labor**	**Total**
1. Real Property Maintenance Costs:			
1a. Maintenance and Repair *	14	0	14
1b. Minor Construction	0	0	0
1c. Sub-total 1a. and 1b.	14	0	14
2. Other Base Operating Support Costs:			
2a. Utilities	15	0	15
2b. Transportation	0	0	0
2c. Environmental	0	0	0
2d. Facility Leases	0	0	0
2e. Morale, Welfare & Recreation	4	0	4
2f. Bachelor Quarters	0	0	0
2g. Child Care Centers	0	0	0
2h. Family Service Centers	0	0	0
2i. Administration	0	5	5
2j. Other (Specify) 1. Retail Supply 2. Other Base	5	334	339
2k. Sub-total 2a. through 2j:	24	339	363
3. Grand Total (sum of 1c. and 2k.):	38	339	377

* Based on percent of total for FY94

DATA CALL 66
INSTALLATION RESOURCES

b. Funding Source. If data shown on Table 1A reflects more than one appropriation, then please provide a break out of the total shown for the "3. Grand-Total" line, by appropriation:

Appropriation	Amount ($000)
O&M funds:	$377

c. Table 1B - Base Operating Support Costs (DBOF Overhead). This Table should be submitted for all current DBOF activities. Costs reported should reflect BOS costs supporting the DBOF activity itself (usually included in the G&A cost of the activity). For DBOF activities which are tenants on another installation, total cost of BOS incurred by the tenant activity for itself should be shown on this table. It is recognized that differences exist among DBOF activity groups regarding the costing of base operating support: some groups reflect all such costs only in general and administrative (G&A), while others spread them between G&A and production overhead. Regardless of the costing process, all such costs should be included on Table 1B. The Minor Construction portion of the FY 1996 capital budget should be included on the appropriate line. Military personnel costs (at civilian equivalency rates) should also be included on the appropriate lines of the table. Please ensure that individual lines of the table do not include duplicate costs. Also ensure that there is no duplication between data provided on Table 1A. and 1B. These two tables must be mutually exclusive, since in those cases where both tables are submitted for an activity, the two tables will be added together to estimate total BOS costs at the activity. Add additional lines to the table (following line 21., as necessary, to identify any additional cost elements not currently shown). **Leave shaded areas of table blank.**

Other Notes: All costs of operating the five Major Range Test Facility Bases at DBOF activities (even if direct RDT&E funded) should be included on Table 1B. Weapon Stations should include underutilized plant capacity costs as a DBOF overhead "BOS expense" on Table 1B..

DATA CALL 66
INSTALLATION RESOURCES

Table 1B - Base Operating Support Costs (DBOF Overhead)			
Activity Name: NSWC Louisville		**UIC:** N00197	
Category	**FY 1996 Net Cost From UC/FUND-4 ($000)**		
	Non-Labor	**Labor**	**Total**
1. Real Property Maintenance Costs:			
1a. Real Property Maintenance (>$25K)	647	0	647
1b. Real Property Maintenance (<$25K)	2032	0	2032
1c. Minor Construction (Expensed)	25	0	25
1d. Minor Construction (Capital Budget)	N/A	N/A	N/A
1c. Sub-total 1a. through 1d.	2704	0	2704
2. Other Base Operating Support Costs:			
2a. Command Office	131	1341	1472
2b. ADP Support	1604	2191	3795
2c. Equipment Maintenance	208	0	208
2d. Civilian Personnel Services	100	969	1069
2e. Accounting/Finance	18	431	449
2f. Utilities	507	0	507
2g. Environmental Compliance	898	0	898
2h. Police and Fire	47	916.2	963.2
2i. Safety	24	202	226
2j. Supply and Storage Operations	163	3580	3743
2k. Major Range Test Facility Base Costs	0	0	0
2l. Other (Specify) i. Military Labor	0	447	447
ii. Base Communications	85	0	85
iii. FECA	1716	0	1716
iv. Other Engr. Support (less env.)	270	0	270
v. Other	(852.8)	9280.4	8427.6

2m. Sub-total 2a. through 2l:	4918.2	19357.6	24275.8
3. Depreciation	1464.4	0	1464.4
4. Grand Total (sum of 1c., 2m., and 3.) :	9086.6	19357.6	28444.2

2. Services/Supplies Cost Data. The purpose of Table 2 is to provide information about projected **FY 1996** costs for the purchase of services and supplies by the activity. **(Note: Unlike Question 1 and Tables 1A and 1B, above, this question is not limited to overhead costs.)** The source for this information, where possible, should be either the NAVCOMPT OP-32 Budget Exhibit for O&M activities or the NAVCOMPT UC/FUND-1/IF-4 exhibit for DBOF activities. Information must reflect FY 1996 budget data supporting the FY 1996 NAVCOMPT Budget Submit. Break out cost data by the major sub-headings identified on the OP-32 or UC/FUND-1/IF-4 exhibit, disregarding the sub-headings on the exhibit which apply to civilian and military salary costs and depreciation. Please note that while the OP-32 exhibit aggregates information by budget activity, this data call requests OP-32 data for the activity responding to the data call. Refer to NAVCOMPTINST 7102.2B of 23 April 1990, Subj: Guidance for the Preparation, Submission and Review of the Department of the Navy (DON) Budget Estimates (DON Budget Guidance Manual) with Changes 1 and 2 for more information on categories of costs identified. Any rows that do not apply to your activity may be left blank. However, totals reported should reflect all costs, exclusive of salary and depreciation.

Table 2 - Services/Supplies Cost Data

Activity Name: NSWC Louisville	**UIC:** N00197
Cost Category	**FY 1996 Projected Costs ($000)**
Travel:	3441
Material and Supplies (including equipment):	33814
Industrial Fund Purchases (other DBOF purchases):	6424
Transportation:	324
Other Purchases (Contract support, etc.):	27356
Total:	71359

DATA CALL 66
INSTALLATION RESOURCES

3. Contractor Workyears.

a. **On-Base Contract Workyear Table.** Provide a projected estimate of the number of contract workyears expected to be performed "on base" in support of the installation during FY 1996. Information should represent an annual estimate on a full-time equivalency basis. Several categories of contract support have been identified in the table below. While some of the categories are self-explanatory, please note that the category "mission support" entails management support, labor service and other mission support contracting efforts, e.g., aircraft maintenance, RDT&E support, technical services in support of aircraft and ships, etc.

Table 3 - Contract Workyears	
Activity Name: NSWC Louisville	**UIC:** N00197
Contract Type	**FY 1996 Estimated Number of Workyears On-Base**
Construction:	42.5
Facilities Support:	94.0
Mission Support:	6.0
Procurement:	0
Other:*	0
Total Workyears:	142.5

*** Note:** Provide a brief narrative description of the type(s) of contracts, if any, included under the "Other" category.

DATA CALL 66
INSTALLATION RESOURCES

b. Potential Disposition of On-Base Contract Workyears. If the mission/functions of your activity were relocated to another site, what would be the anticipated disposition of the **on-base contract workyears** identified in Table 3.?

1) Estimated number of contract workyears which would be transferred to the receiving site (This number should reflect the number of jobs which would in the future be contracted for at the receiving site, not an estimate of the number of people who would move or an indication that work would necessarily be done by the same contractor(s)):

75.6

NOTE: 69.6 of these workyears assume that the receiving installation can absorb approx. 10% of the Facility Support workyear requirements by utilizing existing 'on-base' support services.

2) Estimated number of workyears which would be eliminated:

51.9

3) Estimated number of contract workyears which would remain in place (i.e., contract would remain in place in current location even if activity were relocated outside of the local area):

15.0

NOTE: This assumes facilities/grounds would be maintained in a "mothball" status.

DATA CALL 66
INSTALLATION RESOURCES

c. "Off-Base" Contract Workyear Data. Are there any contract workyears located in the local community, but not on-base, which would either be eliminated or relocated if your activity were to be closed or relocated? If so, then provide the following information **(ensure that numbers reported below do not double count numbers included in 3.a. and 3.b., above)**:

No. of Additional Contract Workyears Which Would Be Eliminated	General Type of Work Performed on Contract (e.g., engineering support, technical services, etc.)
0	0

No. of Additional Contract Workyears Which Would Be Relocated	General Type of Work Performed on Contract (e.g., engineering support, technical services, etc.)
10.87	ENGINEERING SUPPORT

DATA CALL #66
LOUISVILLE SITE

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print)

Signature

COMMANDER
Title

7/25/94
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. Sargent, Jr.
NAME (Please type or print)

Signature

Commander
Title

7/28/94
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

G. R. STERNER
NAME (Please type or print)

Signature

Title
Naval Sea Systems Command

8-4-94
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)

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

Signature

ACTING
Title

15 AUG 1994
Date

REPRODUCED AT GOVERNMENT EXPENSE

DATA CALL #66
LOUISVILLE SITE

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

R.W. GILBERT	
NAME (Please type or print)	Signature
COMMANDING OFFICER	22 JULY, 1994
Title	Date
CRANE DIVISION NSWC, LOUISVILLE	
Activity	

Document Separator

NSWC Louisville

DATA CALL SUPPLEMENT
FOR
JOINT CROSS SERVICE GROUP - DEPOT MAINTENANCE

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
LOUISVILLE, KENTUCKY SITE

Table of Contents

Notes 2
Table of Acronyms 4
CAPACITY 5
1. Capacity Utilization 5
2. Plant Replacement Value 8
3. Programmed Workload 9
4. Service Centers of Excellence 10

MEASURES OF MERIT 13
Geographic 13
1. Location 13
2. Environmental Compliance 16
3. Environmental Restrictions 17
4. Other Collocated Activities 18
5. Encroachment 19
Facilities and Equipage 20
6. Unique or Peculiar Facilities 20
7. Buildings and Their Condition 23
8. Unique and/or Peculiar Capabilities and Capacities 26
9. Acreage Available for Building 28
10. Administrative Space 30
11. Industrial Waste 30
Workload and Capabilities 31
12. Core Capabilities (DoD) 31
13. Core Workloads 34
14. Other Workloads (Above Core) 35
15. Unique and/or Peculiar Workloads 42
16. Scope of Work Performed 44
17. Interface with Customers 46
Costs 47
18. Real Property Maintenance (RPM) 47
19. Annual Operating Costs 47
20. Environmental Compliance 48
21. Local Wage Rate 48
22. Programmed Capital Investments 49

DATA CALL SUPPLEMENT FOR
JOINT CROSS SERVICE GROUP-DEPOT MAINTENANCE

This supplement is designed to facilitate the cross service analysis required of the 1995 Base Realignment and Closure (BRAC-95) process. It requests data in a standardized format that will be used by the Joint Cross Service Group-Depot Maintenance (JCSG-DM) to develop closure and realignment alternatives to be given to the Military Departments for their analysis and final recommendations. The JCSG-DM Data Call consists of two sections, one for capacity measurements and a second measuring "measures of merit". This Data Call has been formatted to assist the preparer in providing the required information with the minimum amount of effort. If questions arise, contact your Military Department BRAC-95 office for clarification.

Notes in the context of this data call:

1. Base your responses on workload as programmed for your activity. Unless otherwise specified, use workload mixes as programmed in the FYDP.

2. Direct Labor Hours (DLH) is the common unit of measure unless specifically noted otherwise in the question.

3. Information requested in this supplement may duplicate data requested by BRAC 95 data calls from the individual Military Departments. If this occurs, read both questions carefully to ensure that they are in fact asking for identical information, and if that is the case, transfer information from one data call to the other.

4. These questions should be passed up and down the chain of command without editing or rewriting. This standardized data call is designed to support an auditable process by having each activity (regardless of Military Department assigned) respond to the same question.

5. "Core" capability calculations are to be performed in accordance with Office of the Under Secretary of Defense (Logistics) Memorandum dated November 15, 1993 (Subject: Policy for Maintaining Core Depot Maintenance Capability).

6. Capacity and utilization index calculations will be performed in accordance with the Defense Depot Maintenance Council approved update to DoD 4151.15H (Depot Maintenance Capacity/Utilization Index Measurement) dated December 5, 1990.

7. All calculations will assume a one shift, 40 hour work week.

8. Workload, capabilities, and capacities will be measured by commodity groups. A detailed breakout of the JCSG-DM commodity groups is contained in the following box. Insert the commodity groups applicable to your depot maintenance activity into the tables whenever a specific break out is requested by the question. Individual Military Departments in their Service specific data calls, may measure data in different commodity groups or categories, but for the Joint Cross Service analysis, these commodity groups must be utilized.

9. Data will be amounts as of the end of the applicable fiscal year.

JOINT CROSS SERVICE - DEPOT MAINTENANCE

Commodity Groups List

1. Aircraft Airframes:
   a. Rotary
   b. VSTOL
   c. Fixed Wing
      (1) Transport / Tanker / Bomber /
      (2) Command and Control
      (3) Light Combat
      (4) Admin / Training
   d. Other

2. Aircraft Components
   Dynamic Components
   Aircraft Structures
   Hydraulic/Pneumatic
   Instruments
   Landing Gear
   Aviation Ordnance
   Avionics/Electronics
   APUs
   Other

3. Engines (Gas Turbine)
   Aircraft
   Ship
   Tank
   Blades / Vanes (Type 2)

4. Missiles and Missile Components
   Strategic
   Tactical / MLRS

5. Amphibians
   Vehicles
   Components (less GTE)

6. Ground Combat Vehicles
   Self-propelled
   Tanks
   Towed Combat Vehicles
   Components (less GTE)

7. Ground and Shipboard Communications and Electronic Equipment
   Radar
   Radio Communications
   Wire Communications
   Electronic Warfare
   Navigational Aids
   Electro-Optics / Night Vision
   Satellite Control / Space Sensors

8. Automotive / Construction Equipment

9. Tactical Vehicles
   Tactical Automotive Vehicles
   Components

10. Ground General Purpose Items
    Ground Support Equipment (except aircraft)
    Small Arms / Personal Weapons
    Munitions / Ordnance
    Ground Generators
    Other

11. Sea Systems
    Ships
    Weapons Systems

12. Software
    Tactical Systems
    Support Equipment

13. Special Interest Items
    Bearings Refurbishment
    Calibration (Type I)
    TMDE

14. Other

Table of Acronyms

$/DLH	Cost per Direct Labor Hour
$K	Thousands of Dollars
ADMIN	Administrative; administration
AICUZ	Air Installations Compatible Use Zone
AOC$	Annual Operating Cost (dollars)
CCN	Category Code Number
DBOF	Defense Business Operating Fund
DLH	Direct Labor Hour
DoD	Department of Defense
ESQD	Explosive Safety Quantity Distance
FMS	Foreign Military Sales
FY	Fiscal Year
FYDP	Future Year Defense Plan
GTE	Gas Turbine Engines
HERF	Hazardous Electronic Radiation - Fuels
HERO	Hazardous Electronic Radiation - Ordnance
HERP	Hazardous Electronic Radiation - Personnel
JCSG-DM	Joint Cross Service Group - Depot Maintenance
KSF	Thousands of Square Feet
PRV	Plant Replacement Value
R&D	Research and Development
RPM	Real Property Maintenance
SF	Square Feet
WG	Wage Grade

DATA CALL SUPPLEMENT
FOR
JOINT CROSS SERVICE GROUP - DEPOT MAINTENANCE

CAPACITY

1. Capacity Utilization

1.1 Calculate the capacity index for the commodity groups applicable to depot maintenance work at your activity. Provide your answers expressed in direct labor hours (DLHs) in Table 1.1.a by commodity groups for the Fiscal Years requested.

Table 1.1.a: **Capacity Index**

COMMODITY GROUP	INDEX (DLHs)				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11.Sea Systems (Weapons Systems)	1840875	1858209	1823544	1778656	1756213
TOTAL	1840875	1858209	1823544	1778656	1756213

1. Capacity Utilization, continued

1.2 Calculate the utilization index for the commodity groups applicable to depot maintenance work at your activity. Provide your answers expressed as a percentage (%) in Table 1.2.a by commodity groups for the Fiscal Years requested.

Table 1.2.a: **Utilization Index**

COMMODITY GROUP	INDEX (%)				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	68%	72%	75%	76%	79%
TOTAL	68%	72%	75%	76%	79%

Rev.

1. **Capacity Utilization, continued**

1.3 Assuming (a) the current projected total workload remains as assigned; (b) that sufficient production demand is available to justify maximum hiring, with no significant investment in capital equipment; and (c) no major Military Construction additional to that already approved and funded: what is the maximum extent to which operations, by commodity group, could be expanded for depot maintenance work at your activity, based on the current and future planned workload mixes? Please provide your response in the absolute maximum number of direct labor hours (DLHs).

Table 1.3.a: **Maximum Potential Capacity** **R**

COMMODITY GROUP	INDEX (DLHs)				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	2479750	2479750	2479750	2479750	2479750
TOTAL	2479750	2479750	2479750	2479750	2479750

Note 1: Maximum Potential Capacity (DLHs) is based on existing facilities and equipment but assumes unlimited personnel ceilings. This capacity is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

1. Capacity Utilization, continued

1.3 Assuming (a) the current projected total workload remains as assigned; (b) that sufficient production demand is available to justify maximum hiring, with no significant investment in capital equipment; and (c) no major Military Construction additional to that already approved and funded: what is the maximum extent to which operations, by commodity group, could be expanded for depot maintenance work at your activity, based on the current and future planned workload mixes? Please provide your response in the absolute maximum number of direct labor hours (DLHs).

Table 1.3.a: **Maximum Potential Capacity**

COMMODITY GROUP	INDEX (DLHs)				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	3771350	3771350	3771350	3771350	3771350
TOTAL	3771350	3771350	3771350	3771350	3771350

CAPACITY

2. Plant Replacement Value

2.1 What is the estimated Plant Replacement Value (PRV) as of the end of each Fiscal Year of your depot maintenance activity expressed in thousands of dollars ($K) as a function of the facilities and equipment? Provide your answer in Table 2.1.

Table 2.1: **Expenditures and Equipment Values**

PRV	$ K				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
Facilities	264000	274000	286000	299000	311000
Equipments	513981	533032	550829	570354	590465
TOTAL	777981	807032	836829	869354	901465

R

CAPACITY

3. Programmed Workload

3.1 Given the current configuration and operation of your activity, provide the programmed depot level workload by commodity group in Tables 3.1.a and 3.1.b. Express your answer in both dollars ($K) and direct labor hours (DLH) for the Fiscal Years requested.

Table 3.1.a: **Programmed Workload** **R**

COMMODITY GROUP	$ K				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	59636	63958	66592	65697	71098
TOTAL	59636	63958	66592	65697	71098

Table 3.1.b: **Programmed Workload** **R**

COMMODITY GROUP	DLHs				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	1252604	1336133	1362391	1311468	1393451
TOTAL	1252604	1336133	1362391	1311468	1393451

R 9/1/94

CAPACITY

3. Programmed Workload

3.1 Given the current configuration and operation of your activity, provide the programmed depot level workload by commodity group in Tables 3.1.a and 3.1.b. Express your answer in both dollars ($K) and direct labor hours (DLH) for the Fiscal Years requested.

Table 3.1.a: **Programmed Workload**

COMMODITY GROUP	$ K				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	59636	63958	66592	65697	68398
TOTAL	59636	63958	66592	65697	68398

Table 3.1.b: **Programmed Workload**

COMMODITY GROUP	DLHs				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapon Systems)	1161657	1246951	1271415	1223028	1303931
TOTAL	1161657	1246951	1271415	1223028	1303931

CAPACITY

4. Service Centers of Excellence

4.1 If your activity has been designated as a Service Center of Excellence for any of the commodity groups, please identify them below.

NSWC, Louisville has been designated as a Center of Excellence for the Commodity Group Sea Systems (11) Subgroup Weapon Systems as follows: (NSWC Headquarters refers to these as Technical Capabilities)

CTX	DEPOT
SURFACE MISSILE SYSTEMS LAUNCHER	**NSWC, Louisville**

- MK 13 TARTAR Launcher Components
- MK 26 TARTAR Launcher Components
- MK 5 TERRIER Launchers and Components
- MK 10 TERRIER Launcher Systems
- MK 143 Armored Box Launchers (ABLs)
- MK 112 ASROC Launchers and Components
- MK 32 Surface Vessel Torpedo Tubes (SVTTs)

RADAR **NSWC, Louisville**

- MK 23 Target Acquisition System (TAS)
- MK 92 Fire Control System which includes:
  - MK 53 Combined Antenna System (CAS)
  - MK 54 Separate Tracking Illumination Radar (STIR)

PNEUMATICS **NSWC, Louisville**

- MK 17 Turbine Pump Ejection Systems (TPES)

The Naval Surface Warfare Center recognizes a unique Technical Capability in Surface Missile Systems Launchers at the Louisville, Kentucky site of the Crane Division. Within this Technical Capability a Center of Excellence can be identified for each of the systems above. This acknowledgement is the result of the unique mix of personnel, facilities and equipments which provides a synergism available no where else in the world. One part of this technical capability is the **only certified** Depot Overhaul Point (DOP) for many of the systems listed.

4.1 (Con't)

CTX	DEPOT
NAVAL GUN WEAPON SYSTEMS	**NSWC, Louisville**

- Gun Engagement Systems
  Minor Cal Gun Systems (20mm to 3.9 inch)
  Medium Cal Gun Systems (4 inch to 7.9 inch)
  Major Cal Gun Systems (8 inch to 16 inch)
  Gun Fire Control Systems

- Theater Air Defense Systems
  Close-In Weapon Systems
  Decoy Launching Systems

The Naval Surface Warfare Center has a uniquely integrated engineering and industrial facility, located in Louisville, which provides the Navy with the **only qualified and certified** depot facility of Naval Gun Weapon Systems. Within this Technical Capability, a Center of Excellence can be identified for each of the systems above. This facility is a co-location of engineering and depot maintenance facilities which provides the Navy a **unique full spectrum capability to respond to reconstitution, surge/mobilization and rapid response requirements for Naval Gun Weapon Systems.**

CTX	DEPOT
SPECIALIZED MECHANICAL DEVICES	**NSWC, Louisville**

- Standard Missile Rocket Motor Casings MK 56 and MK 104
- Naval Gun Barrels (76mm and 5 inch)
- Valve Ball Overhaul
- Amphibious Assault Vehicle Modification (Marine Corps)
- Decoy Launcher Tubes

The Naval Surface Warfare Center, Crane Division (Louisville site) is a **national asset** recognized as a leader, in and outside of DoD, capable of providing a full array of products and services in all aspects of research and development, engineering, modernization, manufacture, repair and fleet support for virtually any mechanical item used or needed by DoD. The Specialized Mechanical Devices Technical Capability serves as a **leading Navy and Joint/DoD testbed for developing, verifying and applying new/emerging technology and processes to all phases of product engineering and transferring these technologies and processes to other public as well as private industrial concerns**. Louisville is designated by the DoD Joint Logistics Center as one of the two original Flexible Computer Integrated Manufacturing (and repair) (FCIM) Process Validation Enterprises for mechanical parts.

DATA CALL SUPPLEMENT
FOR
JOINT CROSS SERVICE GROUP - DEPOT MAINTENANCE

MEASURES OF MERIT

Geographic

1. Location

1.1 Specify any special strategic importance or military value consideration of your activity accruing from its geographical location.

Activity	Location	Description of Strategic Importance/Military Value
NSWC, Louisville	Louisville, KY	- Collocation of full spectrum life cycle engineering and depot overhaul/production capabilities unparalled within DON, allows DON to retain its ability to be a "**smart buyer**".
NSWC, Louisville	Louisville, KY	- The **last remaining organic depot capability for Naval Weapon Systems** in the DON. NSWC, Louisville is more reponsive to field service operations due to our central location in the country.
NSWC, Louisville	Louisville, KY	- Is located within 30 miles of Ft. Knox which provides firing ranges for the testing of major gun systems such as the PHALANX, MK 45, and MK 75.

1.1 (con't)

NSWC, Louisville	Louisville, KY	- One of the greatest benefits to NSWC, Louisville's location in the central midwest is that of providing a consolidated "**full spectrum**" activity in an affordable labor market that is capable of supporting the East and West coasts along with the Gulf Coast. Coupled with the co-location of engineering and industrial capabilities, this makes NSWC, Louisville an affordable one stop shop for our customers. The lower cost of living for this area attracts and retains quality technical people which sustains our stability, necessary for maintaining a "**smart buyer**" capability over the life cycle of a weapon system.
NSWC, Louisville	Louisville, KY	- Central location (within the city of Louisville) has enhanced our ability to demonstrate remarkable expedience in readiness and in the deployment of technical personnel.
NSWC, Louisville	Louisville, KY	- Continued expansion and development of the Standiford Field Airport (located only **5 minutes** from NSWC, Louisville).
NSWC, Louisville	Louisville, KY	- Louisville, KY is considered the Midwest's **Crossroads** for many major interstates tied in with both the Atlantic, Pacfic and Gulf Coasts (e.g., I-64 running from **Norfolk, VA** directly through Louisville, KY which provides easy access for all trucking transportation; I-65, I-71).
NSWC, Louisville	Louisville, KY	- Historically, NSWC, Louisville has provided a stable workforce including high caliber engineers and highly skilled (journeymen) tradespeople.

1.1 (con't)

Activity	Location	Description of Strategic Importance/Military Value
NSWC, Louisville	Louisville, KY	- United Parcel Service (UPS) has its **primary** international and national operations hub located at the Standiford Field Airport. All air shipments are routed through this site, UPS has a sorting capacity of 160,000 packages or documents per hour supported by 90 to 100 flights per day. UPS serves over 185 countries and territories. Services include: next day air, second day, comprehensive logistics capabilities, and on-site customs clearance.
NSWC, Louisville	Louisville, KY	- Louisville is served by five railroads and is directly adjacent to CSX Transportation's Regional Railroad Freight Classification yard (a major rail facility).
NSWC, Louisville	Louisville, KY	- City of Louisville is located on a major inland water thoroughfare (Ohio River), which is a route for major barge lines serviced by the Louisville River Port Industrial Zone (proximity to NSWC, Louisville is approximately **5 miles**).

Geographic, continued

2. Environmental Compliance

Answers to the following questions need to reflect the particular workloads or processes affected by the environmental restrictions/compliance.

2.1 Is your activity in full compliance with all Federal, state, and local environmental regulations? If not in full compliance, provide a comprehensive list of individual regulations that require actions to be taken. What compliance waivers have been granted? When must the activity come into compliance?

Type	Regulation	Waiver (Date Expires)	Date Must be in Compliance
Air emissions of volatile organic compounds	Jefferson County Regulation 6.31	To be negotiated	N/A
Industrial wastewater effluent intermittent	40 CFR 433	Indefinite, NSWC, Louisville has consented in writing to test every batch prior to discharge.	N/A

2.2 Has any actual or programmed work at this installation been restricted or delayed because of environmental considerations, such as air or water quality? If so, provide the details of the impact of the restrictions or delays.

Programmed Work	Restriction/Delay	Describe Impact
None		

Geographic, continued

3. Environmental Restrictions

Answers to the following questions need to reflect the particular workloads or processes affected by the environmental restrictions/compliance.

3.1 Are there any special programs relating to environmental or industrial waste considerations for your activity? If so, provide the details.

Special Program	Environmental/Industrial Waste	Describe
Jefferson County Regulation 5.04 Jefferson County Regulation 5.13	Asbestos	Repairs involving asbestos are controlled by County/State standards.
Jefferson County Hazardous Materials Ordnance	Spills/Release	Prompt spill reporting to multiple agencies required agencies required for many substances.

3.2 Within what provisions must the activity operate with regard to disposal of hazardous wastes and radioactive materials?

Type	Provisions	Describe

* NSWC, Louisville must meet the national standards required by federal regulations for any generation of hazardous waste in the United States. There are no special provisions concerning disposal of hazardous waste.

Geographic, continued

4. Other Collocated Activities

4.1 Are there any collocated activities that directly benefit or relate to the depot maintenance activity? If yes, list and describe the impact of each. Include benefits derived from being collocated.

Collocated Activity	Benefit/Relationship	Describe Impact
Engineering/ Technical Center	- Provides **unique** full spectrum corrective action. - Combines skills and expertise of fleet, depot, and support personnel to solve fleet and depot technical problems.	- Reduces time to effect life cycle support **synergy**. - Ensures that modification engineering upgrades and safety are effectively introduced into the Weapons Systems.

4.2 Do collocated activities support, or are they supported by, the depot maintenance activity?

Collocated Activity	Describe Relationship
Engineering/Technical Center	The synergy gained by collocating the depot and the Engineering/Technical Center help support each other.

4.3 How would these activities and the depot maintenance activity function if they were not collocated?

Collocated Activity	Describe Impact if not Collocated
Engineering/Technical Center	- Reduced efficiency. - Increased time to resolve technical problems which could affect fleet personnel for safety related issues. - Loss of the repository of technical knowledge for DON Weapon Systems.

5. Encroachment

5.1 Have operations at this activity been at all constrained to accommodate requests of the local communities?

Type of Encroachment	Operation Impacted	Describe
None		

5.2 Indicate any encroachment constraints on current or future operations that would restrict future expansion.

Type of Encroachment	Constraint on ExpansionDescribe
None	

MEASURES OF MERIT

Facilities and Equipage

6. Unique or Peculiar Facilities

6.1 List unique or peculiar testing facilities, excluding equipment (e.g. runways, railheads, ports, tracks, ponds, etc.).

Test Facility	Describe Uniqueness/Peculiarity
- Cable Manufacturing & Test Facility - Fire Control/Director Overhaul/Test Facility - Launcher Overhaul Test Facility - Motor Overhaul/Test Facility - Radar/Target Acquisition System Overhaul/Test Facility - Turbine Pump Ejection System Overhaul/Test Facility - Gun System Maintenance & Overhaul Support Facility - Shipboard Physical Security Mockup Facility/Equipment - Gun System Engineering Laboratory & Test Tower - Software Development/Test & Maintenance Facility - Gun System Engineering Test and Advanced Training Facility - Calibration Laboratory Facility - Close-in Defense Modernization/Upgrade/Overhaul Facility - Performance Engineering and Training Systems (PETS) - TE125 Indoor Antenna Analyzer/Compact Range - TE8000 Weapon System Test Range - Metal/Composite Facility - Nondestructive Testing Facility	NSWC, Louisville is the **only remaining DoD activity which supports Surface Weapon Systems within the Sea Systems Commodity Group**.

6.2 Indicate the reasons that these facilities are required by the depot maintenance function.

Test Facility	Reasons Required for Maintenance
- Cable Manufacturing & Test Facility - Fire Control/Director Overhaul/Test Facility - Launcher Overhaul Test Facility - Motor Overhaul/Test Facility - Radar/Target Acquisition System Overhaul/Test Facility - Turbine Pump Ejection System Overhaul/Test Facility - Gun System Maintenance & Overhaul Support Facility - Shipboard Physical Security Mockup Facility/Equipment - Gun System Engineering Laboratory & Test Tower - Software Development/Test & Maintenance Facility - Gun System Engineering Test and Advanced Training Facility - Calibration Laboratory Facility - Close-in Defense Modernization/Upgrade/Overhaul Facility - Performance Engineering and Training Systems (PETS) - TE125 Indoor Antenna Analyzer/Compact Range - TE8000 Weapon System Test Range - Metal/Composite Facility - Nondestructive Testing Facility	These test facilities are required to ensure that modernized, upgraded and overhauled systems meet the Weapons Systems specifications. This is required prior to reinstallation aboard Navy ships.

6.3 How could the depot maintenance function be performed without these specialized facilities?

Test Facility	Describe Testing Alternatives
- Cable Manufacturing & Test Facility	
- Fire Control/Director Overhaul/Test Facility	
- Launcher Overhaul Test Facility	
- Motor Overhaul/Test Facility	
- Radar/Target Acquisition System Overhaul/Test Facility	
- Turbine Pump Ejection System Overhaul/Test Facility	
- Gun System Maintenance & Overhaul Support Facility	
- Shipboard Physical Security Mockup Facility/Equipment	
- Gun System Engineering Laboratory & Test Tower	
- Software Development/Test & Maintenance Facility	
- Gun System Engineering Test and Advanced Training Facility	
- Calibration Laboratory Facility	
- Close-in Defense Modernization/Upgrade/Overhaul Facility	
- Performance Engineering and Training Systems (PETS)	
- TE125 Indoor Antenna Analyzer/Compact Range	
- TE8000 Weapon System Test Range	
- Metal/Composite Facility	
- Nondestructive Testing Facility	
- All Test Facilities	**Without these full spectrum, co-located test facilities, the new manufactured or overhauled equipment could not be tested and therefore Fleet readiness would be severely impacted.**

7. Buildings and Their Condition

7.1 List the buildings used to perform the depot maintenance functions by category code numbers (five or six digit CCNs), identifying their current condition (adequate, substandard, and inadequate) in Table 7.1 in thousands of square feet (KSF).

Table 7.1: **Facility Conditions**

CCN	Facility Type	Condition / Area (# KSF)			Comments
		Adequate	Substandard	Inadequate	
171-20	Applied Instruction	1.2	N/A	N/A	Solderfication Training
212-20	Missile Equipment Maintenance	117.5	N/A	N/A	
213-41	Central Tool Shop	.8	N/A	N/A	N/A
213-44	Forge and Heat Treat	23.7	N/A	N/A	N/A
213-45	Welding Shop	94.2	N/A	N/A	N/A
213-49	Inside Machine Shop	172.3	N/A	N/A	N/A
213-60	Paint and Blast Shop	39.0	N/A	N/A	N/A
215-20	Light Gun Shop	630.5	N/A	N/A	N/A
215-77	Light Gun Storage	18.0	N/A	N/A	
217-10	Electronics Maintenance	192.3	N/A	N/A	N/A
Subtotal (Table 1)		1289.5			

7.1 (con't)

Table 7.1: **Facility Conditions**

CCN	Facility Type	Condition / Area (# KSF)			Comments
		Adequate	Substandard	Inadequate	
ex: 211-03	*ex: Corrosion Control Hangar*	#	#	N/A	N/A
217-30	Field Maint. Shop	5.0	N/A	N/A	
218-45	Instrument Calibration shop	8.4	N/A	N/A	N/A
218-68	Prod. Equip. Maint	14.3	N/A	N/A	N/A
313-25	Ships Integration Lab	2.9	N/A	N/A	R&D Support Prod.
315-15	Ship WPN Sys Lab	6.1	N/A	N/A	R&D Support Prod.
317.20	Electronics Sys Lab	.9	N/A	N/A	R&D Support Prod.
	Subtotal (Table 2)	37.6	N/A	N/A	N/A
			N/A	N/A	
	Subtotal (Table 1)	1289.5	N/A	N/A	
	Grand Total	1327.1	N/A	N/A	

Facilities and Equipage, continued

7.2 In Table 7.2.a, identify space available for expansion by building type for those facility category code numbers (five or six digit CCNs) that are most important to your mission. An activity's expansion capability is a function of its ability to reconfigure/rehabilitate existing underutilized facilities to accept new or increased requirements.

Table 7.2.a: Space Available for Expansion

Building ID / Type	CCN	Installation Space (KSF)			Total
		Adequate	Substandard	Inadequate	
"C"/Prod.	212-20	85.5	N/A	N/A	85.5
"E"/Prod.	212-49	26.6	N/A	N/A	26.6
56/Prod.	215-20	3.8	N/A	N/A	3.8
122/Prod.	212-20	3.1	N/A	N/A	3.1
N/A	N/A	0	N/A	N/A	0
N/A	N/A	0	N/A	N/A	0
N/A		0	N/A	N/A	0
	TOTAL:	119.0	N/A	N/A	119.0

NOTE: All installation space is provided in net square feet.

Facilities and Equipage, continued

8. Unique and/or Peculiar Capabilities and Capacities

8.1 What unique and/or peculiar capabilities and capacities does the depot maintenance activity possess?

Depot Maintenance Capability/Capacity	Describe Why Unique/Peculiar
- Naval Engineering Drawing Management Facility - Manufacturing & Test Facility - Fire Control/Director Overhaul/Test Facility - Launcher Overhaul Test Facility - Motor Overhaul/Test Facility - Radar/Target Acquisition System Overhaul/Test Facility - Turbine Pump Ejection System Overhaul/Test Facility - Gun System Maintenance & Overhaul Support Facility - Shipboard Physical Security Mockup Facility/Equipment - Gun System Engineering Laboratory & Test Tower - Software Development/Test & Maintenance Facility - Gun System Engineering Test and Advanced Training Facility - Calibration Laboratory Facility - Close-in Defense Modernization/Upgrade/Overhaul Facility - Performance Engineering and Training Systems (PETS) - TE125 Indoor Antenna Analyzer/Compact Range - TE8000 Weapon System Test Range - Soldering and Wiring Technology Facility - Plating Facility - Metal/Composite Facility - Gear Manufacturing Cell - Machining Facility - Standard Missile Rocket Motor Facility - Valve Ball Overhaul Facility - Nondestructive Testing Facility - Engineering and Production Documentation Support Facility	NSWC, Louisville is the **only remaining DoD Cable Activity which supports Surface Weapon Systems within the Sea Systems Commodity Group. Without these full spectrum, co-located capabilities, capacities and facilities, Fleet Readiness would be severely impacted.**

8.2 Separately list the depot maintenance facilities and equipment which are one of a kind within the Service and/or DoD.

Facility/Equipment	Describe Why It is One of a Kind
- Naval Engineering Drawing Management Facility - Cable Manufacturing & Test Facility - Fire Control/Director Overhaul/Test Facility - Launcher Overhaul Test Facility - Motor Overhaul/Test Facility - Radar/Target Acquisition System Overhaul/Test Facility - Turbine Pump Ejection System Overhaul/Test Facility - Gun System Maintenance & Overhaul Support Facility - Shipboard Physical Security Mockup Facility/Equipment - Gun System Engineering Laboratory & Test Tower - Software Development/Test & Maintenance Facility - Gun System Engineering Test and Advanced Training Facility - Calibration Laboratory Facility - Close-in Defense Modernization/Upgrade/Overhaul Facility - Performance Engineering and Training Systems (PETS) - TE125 Indoor Antenna Analyzer/Compact Range - TE8000 Weapon System Test Range - Soldering and Wiring Technology Facility - Plating Facility - Metal/Composite Facility - Gear Manufacturing Cell - Machining Facility - Standard Missile Rocket Motor Facility - Valve Ball Overhaul Facility - Nondestructive Testing Facility - Engineering and Production Documentation Support Facility	**Previous consolidations have resulted in this facility now being unique in its capabilities and capacities within the Navy and DoD.**

Facilities and Equipage, continued

9. Acreage Available for Building

9.1 What acreage on the installation does the government own in the proximity of the depot maintenance area that could be used for future expansion? Identify in the table below the real estate resources which have the potential to facilitate future development and for which you are the plant account holder or into which, though a tenant, your activity could reasonably expect to expand. Developed area is defined as land currently with buildings, roads, and utilities where further development is not possible without demolition of existing improvements. Report in "Restricted" areas that are restricted for future development due to environmental constraints (e.g. wetlands, landfills, archaeological sites), operational restrictions (e.g. ESQD arcs, HERO, HERP, HERF, AICUZ, ranges) or cultural resources restrictions. Identify the reason for the restriction when providing the acreage.

See Table 9.1

Table 9.1: **Real Estate Resources**

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	119.572	65.383	1.549 (NOTE #2)	57.869
Operational	.444	.222	N/A	N/A
Training	.397	.199	N/A	N/A
R & D	.449	.225	N/A	N/A
Supply & Storage	7.753	3.876	.459 (NOTE #3)	3.417
Admin	4.658	2.329	N/A	2.329
Housing	8.300	4.150	N/A	N/A
Recreational	.867	.433	N/A	N/A
Forestry Program	N/A	N/A	N/A	N/A
Agricultural Outlease Program	N/A	N/A	N/A	N/A
Hunting/Fishing Programs	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
Total:	142.44 (NOTE #1)	76.817	2.008	63.615

NOTE #1 - Activity is compact (142.44 Acres) with multi-feeds of each utility and minimal distance for any undeveloped site to roads, utilities, etc. with less than 10% of new facility cost required for site development.

NOTE #2 - HERP locations at L, 62, 72 & 119 restrict construction.

NOTE #3 - Environmental constraints exist with soil conditions.

10. Administrative Space

10.1 What amount in square feet of administrative space could be made available to the depot maintenance function?

Current Use	Square Feet	Potential Use (Be Specific)
Category Code # CNN		
212 (Missile)	13,923	See Notes 1. - 6.
213 (Paint, Welding)	3,055	See Notes 1. - 6.
215 (Light Gun)	5,016	See Notes 1. - 6.

**Administrative space is interpreted to extend beyond 610-10 space and include all office spaces unrelated to the CNN.

**Square footages listed are office spaces formerly occupied by production groups or support groups that could be made available at minimal costs.

Notes:

1. Engineering Support
2. Production Support
3. Production Controller
4. Quality Assurance
5. Administrative Support
6. Training/Conference Room

11. Industrial Waste

11.1 Are there any inhibiting factors that would limit future expansion on the base? Provide the details if applicable.

Inhibiting Factor	Provide Detailed Description
None	Note: Restriced existing buildable acreage is minimal compared to the total acreage available for future expansion (less than 2%).

MEASURES OF MERIT

Workload and Capabilities

Answers to the following questions are to reflect programmed amounts by commodity group, by activity in direct labor hours by Fiscal Year for FY 1996 through FY 1999.

12. Core Capabilities (DoD)

12.1 What is the amount of core capability required to support your own Service? Provide your answers in Table 12.1.a by commodity group for the Fiscal Years requested.

Table 12.1.a: **Service Required Core**

COMMODITY GROUP	Capability (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	1193563	1245264	1199539	1281152
TOTAL	1193563	1245264	1199539	1281152

Workload and Capabilities, continued

12. Core Capabilities (DoD), continued

12.2 What is the amount of capability retained for the performance of other Services core? Provide your answers in Table 12.2.a by commodity group for the Fiscal Years requested.

Table 12.2.a: **Core Capability Retained for Other Services**

COMMODITY TYPE	Capability (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A

Workload and Capabilities, continued

12. Core Capabilities (DoD), continued

12.3 What portion of the Service Core capability identified in the 12.1a above is identified as Service-Controlled Core (Title 10 responsibility)? Provide your answer in Table 12.3.a by commodity group for the Fiscal Years requested.

Table 12.3.a: **Service-Controlled Core (Title 10)**

COMMODITY GROUP	Capability (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	1193563	1245264	1199539	1281152
TOTAL	1193563	1245264	1199539	1281152

R

Workload and Capacities, continued

13. Core Workloads

13.1 What are your total Core Workloads to be applied against capabilities identified in Tables 12.1a and 12.2a)? Provide your answer (DLH) in Table 13.1.a by commodity group for the Fiscal Year requested.

Table 13.1.a **Total Core Workloads** **R**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	1139243	1190808	1145674	1228240
TOTAL	1139243	1190808	1145674	1228240

Workload and Capacities, continued

13. Core Workloads

13.1 What are your total Core Workloads to be applied against capabilities identified in Tables 12.1a and 12.2a)? Provide your answer (DLH) in Table 13.1.a by commodity group for the Fiscal Year requested.

Table 13.1.a **Total Core Workloads**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	1193563	1245264	1199539	1281152
TOTAL	1193563	1245264	1199539	1281152

Note: The hours shown reflect only work performed by the Naval Surface Warfare Center. Naval Surface Warfare Center does not have visibility into the total (i.e., public and private) depot maintenance requirement for surface warfare systems.

Workload and Capabilities, continued

14. Other Workloads (Above Core)

14.1 What above core workloads do you perform by these source categories? Use the most appropriate category, but do not duplicate workload on more than one table. Provide answers in Tables 14.1.a through 14.1.g by commodity group for the Fiscal Years requested.

Table 14.1.a: **FMS Above Core Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	102310	107710	102310	102310
TOTAL	102310	107710	102310	102310

Workload and Capabilities, continued

14. Other Workloads (Above Core), continued

Table 14.1.b: **Interservice Above Core Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A

Table 14.1.c: **Other Agency Above Core Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A

Workload and Capabilities, continued

14. Other Workloads (Above Core), continued

Table 14.1.d: **Last Source of Repair Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	41550	41550	41550	41550
TOTAL	41550	41550	41550	41550

Workload and Capabilities, continued

14. Other Workloads (Above Core), continued

Table 14.1.e: **Within Service Above Core Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	53030	22323	21931	21351
TOTAL	53030	22323	21931	21351

Workload and Capabilities, continued

14. Other Workloads (Above Core), continued

Table 14.1.f: **Low Quantity Above Core Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A

Workload and Capabilities, continued

14. All Other Workloads (Above Core), continued

Table 14.1.g: **All Other Workload (Above Core)**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A

Workloads and Capabilities, continued

14. Other Workloads (Above Core), continued

Table 14.1.h: **Total Above Core Workload**

(Sum of Tables 14.1.a through 14.1.g)

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	196890	171583	165794	165211
TOTAL	196890	171583	165794	165211

R

Workload and Capabilities, continued

15. Unique and/or Peculiar Workloads (Refer to Question 8.1)

15.1 What amount of the workload reported in question 8.1 is Core? Provide your answer in Table 15.1 by commodity groups for the Fiscal Years requested.

Table 15.1: **Unique and/or Peculiar Total Core Workload** **R**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	1139243	1190808	1145674	1228240
TOTAL	1139243	1190808	1145674	1228240

Workload and Capabilities, continued

15. Unique and/or Peculiar Workloads (Refer to Question 8.1)

15.1 What amount of the workload reported in question 8.1 is Core? Provide your answer in Table 15.1 by commodity groups for the Fiscal Years requested.

Table 15.1: **Unique and/or Peculiar Total Core Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	1198563	1245264	1199539	1281152
TOTAL	1198563	1245264	1199539	1281152

Workload and Capabilities, continued

15. Unique and/or Peculiar Workloads (Refer to Question 8.1), continued

15.2 What amount of the workload reported in question 8.1 is non-Core? Provide your answer in table 15.2 by commodity group for the Fiscal Years requested.

Table 15.2: **Non-Core Unique and/or Peculiar Workload**

COMMODITY GROUP	Workload (DLHs)			
	FY 1996	FY 1997	FY 1998	FY 1999
11. Sea Systems (Weapons Systems)	196890	171583	165794	165211
TOTAL	196890	171583	165794	165211

Workload and Capabilities, continued

16. Scope of Work Performed

16.1 Indicate the services/functions performed at this activity that are associated with depot maintenance, but not generally classified or considered as integral to the depot maintenance functions.

Service/Function	Description
Acquisition/Contracting Support	The co-location of the engineering and technical centers enables the DON to be a **"smart buyer"**, and rapidly apply engineering lessons learned to new system acquisition and **full spectrum life cycle support.**
First Article Testing	Supports the Inventory Control Point (ICP) for spares/repair items procurement.
Rapid Prototype/Limited Production	Concept, design, engineering, and manufacturing of safety and modernization changes for **full spectrum life cycle support** of all Commodity Groups.
Fleet Support	A reliable, dependable workforce that ensures lessons learned in the depot and aboard ships are integrated into the Fleet maintenance philosophy and weapon system acquisition process.
Reverse Engineering Function	Since NSWC, Louisville is the repository of technical knowledge for Naval Surface Weapon Systems it performs reverse engineering to extend the service life. Significant reverse engineering capabilities exist in support of weapon systems and their components allowing for the ability to make/buy/repair components or items out of production while performing the maintenance function. Supports the ICP.
Industrial Process Technology Transfer	Satisfies the requirement to maintain a viable technological base for transfer of industrial processes to the private sector. Supports the ICP.
Last Source of Repair/Manufacturing	Significant capability is used to repair or manufacture components or items in support of depot maintenance where no other source exists. Supports the ICP.

16.2 Describe how these services/functions are related to accomplishment of the depot maintenance mission, and the benefits of these relationships.

Service/Function	Describe Relationship and Benefit to Maintenance Mission
Acquisition/Contracting Support	See 16.1 above
First Article Testing	See 16.1 above
Rapid Prototype/Limited Production	See 16.1 above
Fleet Support	See 16.1 above
Reverse Engineering Function	See 16.1 above
Industrial Process Technology Transfer	See 16.1 above
Last Source of Repair/Manufacturing	See 16.1 above

Workload and Capabilities, continued

17. Interface with Customers

17.1 Indicate any special functions that the depot maintenance function performs that require close interface with customers, such as on-site workloads (e.g. technical assistance, crash/battle damage repairs, modification/upgrade installations).

Service/Function	Describe Required Interface/Relationship/Benefit
Quality Management	Customer sponsored Quality Assurance Representatives are available on-site to address matters on quality. Quality Deficiency Reports, Material Review Boards and validation plans are just a few of the actions coordinated.
Technical Assistance	Provide direct technical assistance via phone/message when requested ships/NAVSEACENs. Provide on-site support (troubleshooting/ corrective actions) for correcting problems that are beyond the capability of the NAVSEACENS.
Crash/Battle Damage	Provide technical experts for investigation of damage if cognizant systems are suspected of failure or of causing damage to determine fault. Propose solutions/corrective actions to eliminate future problems of the same type.
Modification/Upgrade Installations	Provide technical assistance to Navy shipyards, NAVSEACENS, and private shipyards, for installation of major system modifications/upgrades. Provide technical training to Navy shipyard/NAVSEACEN/ships personnel to insure familiarity with modified/upgraded systems.

MEASURES OF MERIT

Costs [1]

18. Real Property Maintenance (RPM)

18.1 What is your activity's backlog of real property maintenance for facilities performing depot maintenance as of 30 September 1993 (express in $K)?

$6124.1
* This figure only includes backlog for those facilities identified as part of depot maintenance. It does not include roads, main utilities, railroad, etc.)

18.2 What were your activity's annual RPM expenses (in $K) for Fiscal Years 1990-1993? Provide your answers in Table 18.2.

Table 18.2: **Real Property Maintenance Expenses**

	FY 1990	FY 1991	FY 1992	FY 1993
RPM Expenses ($K)	5788.0	4969.0	5548.0	5052.9

19. Annual Operating Costs (Excludes Materials used in Depot Maintenance Workloads)

19.1 What were the total depot maintenance actual annual operating costs for your activity (AOC/$K), excluding materials, used in depot maintenance workloads for Fiscal Years 1990-1993? What was the cost per direct labor hour ($DLH) for actual executed hours reported in the DBOF? Provide your answers in Table 19.1.a.

Table 19.1: **Annual Operating Costs**

EXPENSE	FY 1990	FY 1991	FY 1992	FY 1993
AOC ($ K)	$84,895	$93,452	$102,635	$102,573
$ / DLH	$40.13	$41.07	$49.19	$51.47

Costs, continued

[1]There are inherent differences in organizational structure and accounting systems across the Services. Consequently, cost accumulations vary considerably. This severely limits the comparability of the cost per direct labor hour ($/DLH) rates across Service lines.

20. Environmental Compliance

20.1 What were your total depot maintenance actual and programmed environmental compliance costs (expressed in $K) for Fiscal Years 1990-1997? Provide your answers in Table 20.1.

Table 20.1: **Environmental Compliance Costs**

COST($K)	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997
Actual	442.6	790.3	824.8	1307.8	N/A	N/A	N/A	N/A
Programmed	N/A	N/A	N/A	N/A	1027.0	910.1	1500.0	893.1

20.2 If spending is accomplished as programmed above, what will be the remaining costs (backlog at the end of Fiscal Year 1997 expressed in $K) to bring existing facilities/equipment into environmental compliance?

$0K

21. Local Wage Rate

21.1 What were your Department of Labor local wage rates for a WG-11, step 3 for Fiscal Years 1991 through 1994?

Table 21.1: **Wage Rate**

Wage Rate	FY 1991	FY 1992	FY 1993	FY 1994
WG-11 / Step3	13.36	13.90	14.48	15.01

Costs, continued

22. Programmed Capital Investments

22.1 How much is programmed for new mission equipment for Fiscal Years 1996 through 1999? Provide your answer (in $K) in Table 22.1.

22.2 How much is programmed for replacement equipment for Fiscal Years 1996 through 1999? Provide your answer (in $K) in Table 22.1.

Table 22.1: **Programmed Capital Investments**

TYPE	FY 1996	FY 1997	FY 1998	FY 1999
NEW MISSION ($K)	0	0	0	0
REPLACEMENT ($K)	3105	1494	2000	2000

NSWC CRANE DIV, LOUISVILLE
DATA CALL #14

JL
SEA09X
5/12/94

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print

Signature

COMMANDER
Title

6 MAY, 1994
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (SEL) D.P. SARGENT, JR.
NAME (Please type of print

Signature

COMMANDER
Title

5/11/94
Date

NAVAL SURFACE WARFARE CENTER
Activity

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

MAJOR CLAIMANT LEVEL

G.R. STERNER
NAME (Please type or print

Signature

Commander
Title

5-13-94
Date

Naval Sea Systems Command
Activity

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

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

J.B. GREENE JR.
NAME (Please type of print

Signature

ACTING
Title

23 MAY 1994
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

R.W. GILBERT
NAME (Please type of print)

Signature

COMMANDING OFFICER
Title

6 MAY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

164

Rev. pg 7

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

NEXT ECHELON LEVEL (if applicable)

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

9/16/94
Date

Crane 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)

Dr. Ira M. Blatstein
NAME (Please type or print)

Signature

Technical Director
Title

10/4/94
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

10-4-94
Date

G. R. STERNER
Commander
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)

P.W. DRENNON
NAME (Please type or print)

Signature

Acting
Title

12 OCT 1994
Date

DATA CALL #14
CRANE DIV.
LOUISVILLE SITE

BRAC-95 CERTIFICATION

Reference: SEVNAVNOTE 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 certificaiton 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 complet to the best of my knowledge and belief.

ACTIVITY COMMANDER

JON R. CUMMINGS
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

9/15/94
Date

NAVSURFWARCEN ORDSTA
Activity

1. This certification is submitted for changes to Data Call #14, Question 1.3. The reason for these changes are because the 1-8-5 rule for calculating capacity was not followed by all Technical Capability (TC) leaders. The figures have been corrected to remove 2nd and 3rd shift hours.

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

R 195 9

NEXT ECHELON LEVEL (if applicable)

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

9/7/94
Date

Crane 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 (Sel) D. P. SARGENT, JR.
NAME (Please type or print)

Signature

Commander
Title

9/14/94
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

G. R. STERNER
Commander
~~Naval Sea Systems Command~~
Title

9-22-94
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

10/1/94
Date

DATA CALL #14
LOUISVILLE SITE

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

JON R. CUMMINGS	Jon R Cummings
NAME (Please type or print)	Signature
COMMANDING OFFICER	7 September, 1994
Title	Date
NAVSURFWARCEN ORDSTA	
Activity	

This certification is in regards to the BSAT's request for clarification of Data Call #14, p. 9 on 31 August, 1994.

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief. 195

R

NEXT ECHELON LEVEL (if applicable)

Pg 34, 42

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

10/24/94
Date

Crane 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)

Dr. Ira M. Blatstein
NAME (Please type or print)

Signature

Technical Director
Title

10/26/94
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

G. R. STERNER
Title Commander Naval Sea Systems Command

10/26/94
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

10/27/94
Date

DATA CALL #14
BSAT CLARIFICATION
LOUISVILLE

BRAC-95 CERTIFICATION

Reference: SEVNAVNOTE 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 certificaiton 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 complet to the best of my knowledge and belief.

ACTIVITY COMMANDER

JON R. CUMMINGS	Signature
NAME (Please type or print)	
COMMANDING OFFICER	10/24/94
Title	Date
NAVSURFWARCEN ORDSTA	
Activity	

1. This certification pertains to the revision on Data Call #14 as requested on 21 October 1994.

2. In order to make the programmed workload equal to the sum of Core Workload and all Above Core Workload, per guidance provided, Missile Launcher work was eliminated from the Core Workload. The rationale for this is that ships having these Missile Launchers are likely to be decommissioned thus eliminating these systems from the Klugh Scenario.

Document Separator

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

Activity Identification: Please complete the following table, identifying the activity for which this response is being submitted.

Activity Name:	NSWC LOUISVILLE
UIC:	N00197
Major Claimant:	NAVSEA

General Instructions/Background:

Information requested in this data call is required for use by the Base Structure Evaluation Committee (BSEC), in concert with information from other data calls, to analyze both the impact that potential closure or realignment actions would have on a local community and the impact that relocations of personnel would have on communities surrounding receiving activities. In addition to Cost of Base Realignment Actions (COBRA) analyses which incorporate standard Department of the Navy (DON) average cost factors, the BSEC will also be conducting more sophisticated economic and community infrastructure analyses requiring more precise, activity-specific data. For example, activity-specific salary rates are required to reflect differences in salary costs for activities with large concentrations of scientists and engineers and to address geographic differences in wage grade salary rates.
Questions relating to "Community Infrastructure" are required to assist the BSEC in evaluating the ability of a community to absorb additional employees and functions as the result of relocation from a closing or realigning DON activity.

Due to the varied nature of potential sources which could be used to respond to the questions contained in this data call, a block appears after each question, requesting the identification of the source of data used to respond to the question. To complete this block, identify the source of the data provided, including the appropriate references for source documents, names and organizational titles of individuals providing information, etc. Completion of this "Source of Data" block is critical since some of the information requested may be available from a non-DoD source such as a published document from the local chamber of commerce, school board, etc. Certification of data obtained from a non-DoD source is then limited to certifying that the information contained in the data call response is an accurate and complete representation of the information obtained from the source. Records must be retained by the certifying official to clearly document the source of any non-DoD information submitted for this data call.

General Instructions/Background (Continued):

The following notes are provided to further define terms and methodologies used in this data call. Please ensure that responses consistently follow this guidance:

Note 1: Throughout this data call, the term **"activity"** is used to refer to the DON installation that is the addressee for the data call.

Note 2: Periodically throughout this data call, questions will include the statement that the response should refer to the **"area defined in response to question 1.b., (page 3)"**. Recognizing that in some large metropolitan areas employee residences may be scattered among many counties or states, **the scope of the "area defined" may be limited to the sum of:**

- **those counties that contain government (DoD) housing units (as identified in 1.b.2)), and,**
- **those counties closest to the activity which, in the aggregate, include the residences of 80% or more of the activity's employees.**

Note 3: Responses to questions referring to **"civilians"** in this data call should reflect **federal civil service appropriated fund employees**.

1. Workforce Data

a. Average Federal Civilian Salary Rate. Provide the projected FY 1996 average gross annual appropriated fund **civil service** salary rate for the activity identified as the addressee in this data call. This rate should include all cash payments to employees, and exclude non-cash personnel benefits such as employer retirement contributions, payments to former employees, etc.

Average Appropriated Fund Civilian Salary Rate:	$42,867

Source of Data (1.a. Salary Rate): FY 96/97 NSWC DBOF Budget Submittal to NAVCOMPT (DONIBIS dated 6/23/94)

b. Location of Residence. Complete the following table to identify where employees live. Data should reflect current workforce.

1) Residency Table. Identify residency data, by county, for both military and civilian (civil service) employees working at the installation (including, for example, operational units that are homeported or stationed at the installation). For each county listed, also provide the estimated average distance from the activity, in miles, of employee residences and the estimated average length of time to commute one-way to work. For the purposes of displaying data in the table, any county(s) in which 1% or fewer of the activity's employees reside may be consolidated as a single line entry in the table, titled "Other".

County of Residence	State	No. of Employees Residing in County		Percentage of Total Employees	Average Distance From Base (Miles)	Average Duration of Commute (Minutes)
		Military	Civilian			
JEFFERSON	KY	11	1400	67.22	12	20
CLARK	IN		146	6.96	15	30
BULLITT	KY		137	6.53	20	30
FLOYD	IN		113	5.38	16	30
HARDIN	KY	1	52	2.53	30	40
OLDHAM	KY		50	2.38	25	40
HARRISON	IN		46	2.19	35	40
OTHERS (includes 21 counties)	KY-IN	2	141	6.81	50 - 100	60 - 120

= 100%

As discussed in Note 2 on Page 2, subsequent questions in the data call refer to the "area defined in response to question 1.b., (page 3)". In responding to these questions, the scope of the "area defined" may be limited to the sum of: a) those counties that contain government (DoD) housing units (as identified below), and, b) those counties closest to the activity which, in the aggregate, include the residences of 80% or more of the activity's employees.

2) Location of Government (DoD) Housing. If some employees of the base live in government housing, identify the county(s) where government housing is located:

Jefferson County -- Military Only

Source of Data (1.b. 1) & 2) Residence Data): NSWC Louisville, Human Resources Department, Contact: Carol Dennis

c. Nearest Metropolitan Area(s). Identify all major metropolitan area(s) (i.e., population concentrations of 100,000 or more people) which are within 50 miles of the installation. If no major metropolitan area is within 50 miles of the base, then identify the nearest major metropolitan area(s) (100,000 or more people) and its distance(s) from the base.

City	County	Distance from base (miles)
Louisville, KY	Jefferson	0

Source of Data (1.c. Metro Areas): Louisville Area Chamber of Commerce

d. Age of Civilian Workforce. Complete the following table, identifying the age of the activity's **civil service** workforce.

Age Category	Number of Employees	Percentage of Employees
16 - 19 Years	0	0
20 - 24 Years	29	1.39
25 - 34 Years	373	17.89
35 - 44 Years	745	35.73
45 - 54 Years	777	37.27
55 - 64 Years	149	7.15
65 or Older	12	0.57
TOTAL	2085	100 %

Source of Data (1.d.) Age Data): NSWC Louisville, Human Resources Department, Contact: Carol Dennis (DCPDS System and Tenant Managers)

e. Education Level of Civilian Workforce

1) Education Level Table. Complete the following table, identifying the education level of the activity's **civil service** workforce.

Last School Year Completed	Number of Employees	Percentage of Employees
8th Grade or less	3	0.14
9th through 11th Grade	39	1.87
12th Grade or High School Equivalency	1272	61.01
1-3 Years of College	357	17.12
4 Years of College (Bachelors Degree)*	250	11.99
5 or More Years of College (Graduate Work)	164	7.87
TOTAL	2085	100 %

* Identified through NCPDS classification for education levels 12 and 13.

2) Degrees Achieved. Complete the following table for the activity's **civil service** workforce. Identify the number of employees with each of the following degrees, etc. To avoid double counting, only identify the highest degree obtained by a worker (e.g., if an employee has both a Master's Degree and a Doctorate, only include the employee under the category "Doctorate").

Degree	Number of Civilian Employees
Terminal Occupation Program - Certificate of Completion, Diploma or Equivalent (for areas such as technicians, craftsmen, artisans, skilled operators, etc.)	427
Associate Degree	110
Bachelor Degree**	307
Masters Degree	77
Doctorate	4

** Identified through NCPDS classification for education levels 13 through 16.

Source of Data (1.e.1) and 2) Education Level Data): NSWC Louisville, Human Resources Department, Contact: Carol Dennis (DCPDS System and Tenant Managers)

f. Civilian Employment By Industry. Complete the following table to identify by "industry" the type of work performed by **civil service** employees at the activity. The intent of this table is to attempt to stratify the activity civilian workforce using the same categories of industries used to identify private sector employment. Employees should be categorized based on their primary duties. Additional information on categorization of private sector employment by industry can be found in the Office of Management and Budget Standard Industrial Classification (SIC) Manual. However, you do not need to obtain a copy of this publication to provide the data requested in this table.

Note the following specific guidance regarding the "Industry Type" codes in the first column of the table: Even though categories listed may not perfectly match the type of work performed by civilian employees, please attempt to assign each civilian employee to one of the "Industry Types" identified in the table. However, only use the Category 6, "Public Administration" sub-categories when none of the other categories apply. Retain supporting data used to construct this table at the activity-level, in case questions arise or additional information is required at some future time. **Leave shaded areas blank.**

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

Industry	SIC Codes	No. of Civilians	% of Civilians
1. Agriculture, Forestry & Fishing	01-09	0	
2. Construction (includes facility maintenance and repair)	15-17	0	
3. Manufacturing (includes Intermediate and Depot level maintenance)	20-39		
3a. Fabricated Metal Products (include ordnance, ammo, etc.)	34	183	8.78
3b. Aircraft (includes engines and missiles)	3721 et al	0	
3c. Ships	3731	0	
3d. Other Transportation (includes ground vehicles)	various	15	0.72
3e. Other Manufacturing not included in 3a. through 3d.	various	972	46.62
Sub-Total 3a. through 3e.	20-39	1170	56.12
4.Transportation/Communications/ Utilities	40-49		
4a. Railroad Transportation	40	0	
4b. Motor Freight Transportation & Warehousing (includes supply services)	42	72	3.45
4c. Water Transportation (includes organizational level maintenance)	44	0	
4d. Air Transportation (includes organizational level maintenance)	45	0	
4e. Other Transportation Services (includes organizational level maintenance)	47	6	0.29
4f. Communications	48	7	0.34
4g. Utilities	49	0	
Sub-Total 4a. through 4g.	40-49	85	4.08
5. Services	70-89		
5a. Lodging Services	70	0	
5b. Personal Services (includes laundry and funeral services)	72	0	
5c. Business Services (includes mail, security guards, pest control, photography, janitorial and ADP services)	73	66	3.16
5d. Automotive Repair and Services	75	0	

5e. Other Misc. Repair Services	76	0	
5f. Motion Pictures	78	0	
5g. Amusement and Recreation Services	79	0	
5h. Health Services	80	6	0.29
5i. Legal Services	81	2	0.10
5j. Educational Services	82	0	
5k. Social Services	83	0	
5l. Museums	84	0	
5m. Engineering, Accounting, Research & Related Services (includes RDT&E, ISE, etc.)	87	288	13.81
5n. Other Misc. Services	89	436	20.91
Sub-Total 5a. through 5n.:	70-89	798	38.27
6. Public Administration	91-97		
6a. Executive and General Government, Except Finance	91	1	0.05
6b. Justice, Public Order & Safety (includes police, firefighting and emergency management)	92	26	1.24
6c. Public Finance	93	0	
6d. Environmental Quality and Housing Programs	95	5	0.24
Sub-Total 6a. through 6d.		32	1.53
TOTAL		2085	100 %

Source of Data (1.f.) Classification By Industry Data): NSWC Louisville, Human Resources Department, Contact: Carol Dennis (DCPDS System and Tenant Managers)

g. Civilian Employment by Occupation. Complete the following table to identify the types of "occupations" performed by **civil service** employees at the activity. Employees should be categorized based on their primary duties. Additional information on categorization of employment by occupation can be found in the Department of Labor Occupational Outlook Handbook. However, you do not need to obtain a copy of this publication to provide the data requested in this table.

Note the following specific guidance regarding the "Occupation Type" codes in the first column of the table: Even though categories listed may not perfectly match the type of work performed by civilian employees, please attempt to assign each civilian employee to one of the "Occupation Types" identified in the table. Refer to the descriptions immediately following this table for more information on the various occupational categories. Retain supporting data used to construct this table at the activity-level, in case questions arise or additional information is required at some future time. **Leave shaded areas blank.**

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

Occupation	Number of Civilian Employees	Percent of Civilian Employees
1. Executive, Administrative and Management	172	8.25
2. Professional Specialty		
2a. Engineers	241	11.56
2b. Architects and Surveyors	4	0.19
2c. Computer, Mathematical & Operations Research	22	1.05
2d. Life Scientists	0	
2e. Physical Scientists	3	0.14
2f. Lawyers and Judges	1	0.05
2g. Social Scientists & Urban Planners	0	
2h. Social & Recreation Workers	0	
2i. Religious Workers	0	
2j. Teachers, Librarians & Counselors	0	
2k. Health Diagnosing Practitioners (Doctors)	1	0.05
2l. Health Assessment & Treating(Nurses, Therapists, Pharmacists, Nutritionists, etc.)	0	
2m. Communications	3	0.14
2n. Visual Arts	12	0.58
Sub-Total 2a. through 2n.:	287	13.76
3. Technicians and Related Support		
3a. Health Technologists and Technicians	6	0.29
3b. Other Technologists	208	9.97
Sub-Total 3a. and 3b.:	214	10.26
4. Administrative Support & Clerical	214	10.26
5. Services		
5a. Protective Services (includes guards, firefighters, police)	27	1.29
5b. Food Preparation & Service	0	
5c. Dental/Medical Assistants/Aides	0	
5d. Personal Service & Building & Grounds Services (includes janitorial, grounds maintenance, child care workers)	0	
Sub-Total 5a. through 5d.	27	1.29
6. Agricultural, Forestry & Fishing	0	
7. Mechanics, Installers and Repairers	305	14.63
8. Construction Trades	51	2.45
9. Production Occupations	671	32.18

10. Transportation & Material Moving	142	6.81
11. Handlers, Equipment Cleaners, Helpers and Laborers (not included elsewhere)	2	0.11
TOTAL	2085	100 %

Source of Data (1.g.) Classification By Occupation Data): NSWC Louisville, Human Resources Department, Contact: Carol Dennis (DCPDS System and Tenant Managers)

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

Description of Occupational Categories used in Table 1.g. The following list identifies public and private sector occupations included in each of the major occupational categories used in the table. Refer to these examples as a guide in determining where to allocate **appropriated fund civil service jobs** at the activity.

1. **Executive, Administrative and Management.** Accountants and auditors; administrative services managers; budget analysts; construction and building inspectors; construction contractors and managers; cost estimators; education administrators; employment interviewers; engineering, science and data processing managers; financial managers; general managers and top executives; chief executives and legislators; health services managers; hotel managers and assistants; industrial production managers; inspectors and compliance officers, except construction; management analysts and consultants; marketing, advertising and public relations managers; personnel, training and labor relations specialists and managers; property and real estate managers; purchasing agents and managers; restaurant and food service managers; underwriters; wholesale and retail buyers and merchandise managers.
2. **Professional Specialty.** Use sub-headings provided.
3. **Technicians and Related Support.** Health Technologists and Technicians sub-category - self-explanatory. Other Technologists sub-category includes aircraft pilots; air traffic controllers; broadcast technicians; computer programmers; drafters; engineering technicians; library technicians; paralegals; science technicians; numerical control tool programmers.
4. **Administrative Support & Clerical.** Adjusters, investigators and collectors; bank tellers; clerical supervisors and managers; computer and peripheral equipment operators; credit clerks and authorizers; general office clerks; information clerks; mail clerks and messengers; material recording, scheduling, dispatching and distributing; postal clerks and mail carriers; records clerks; secretaries; stenographers and court reporters; teacher aides; telephone, telegraph and teletype operators; typists, word processors and data entry keyers.
5. **Services.** Use sub-headings provided.
6. **Agricultural, Forestry & Fishing.** Self explanatory.
7. **Mechanics, Installers and Repairers.** Aircraft mechanics and engine specialists; automotive body repairers; automotive mechanics; diesel mechanics; electronic equipment repairers; elevator installers and repairers; farm equipment mechanics; general maintenance mechanics; heating, air conditioning and refrigeration technicians; home appliance and power tool repairers, industrial machinery repairers; line installers and cable splicers; millwrights; mobile heavy equipment mechanics; motorcycle, boat and small engine mechanics; musical instrument repairers and tuners; vending machine servicers and repairers.
8. **Construction Trades.** Bricklayers and stonemasons; carpenters; carpet installers; concrete masons and terrazzo workers; drywall workers and lathers; electricians; glaziers; highway maintenance; insulation workers; painters and paperhangers; plasterers; plumbers and pipefitters; roofers; sheet metal workers; structural and reinforcing ironworkers; tilesetters.
9. **Production Occupations.** Assemblers; food processing occupations; inspectors, testers and graders; metalworking and plastics-working occupations; plant and systems operators, printing occupations; textile, apparel and furnishings occupations; woodworking occupations; miscellaneous production operations.
10. **Transportation & Material Moving.** Bus drivers; material moving equipment operators; rail transportation occupations; truck drivers; water transportation occupations.
11. **Handlers, Equipment Cleaners, Helpers and Laborers** (not included elsewhere). Entry level jobs not requiring significant training.

h. Employment of Military Spouses. Complete the following table to provide estimated information concerning **military spouses** who are also employed in the area defined in response to question 1.b., above. **Do not fill in shaded area.**

1. Percentage of Military Employees Who Are Married:	93%
2. Percentage of Military Spouses Who Work Outside of the Home:	77%
3. Break out of Spouses' Location of Employment (Total of rows 3a. through 3d. should equal 100% and reflect the number of spouses used in the calculation of the "Percentage of Spouses Who Work Outside of the Home".	
3a. Employed "On-Base" - Appropriated Fund:	0
3b. Employed "On-Base" - Non-Appropriated Fund:	0
3c. Employed "Off-Base" - Federal Employment:	0
3d. Employed "Off-Base" - Other Than Federal Employment	100%

Source of Data (1.h.) Spouse Employment Data): NSWC Louisville, Human Resources Department, Contact: Carol Dennis (Military Personnel)

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

2. Infrastructure Data. For each element of community infrastructure identified in the two tables below, rate the community's ability to accommodate the relocation of additional functions and personnel to your activity. Please complete each of the three columns listed in the table, reflecting the impact of various levels of increase (20%, 50% and 100%) in the number of personnel working at the activity (and their associated families). In ranking each category, use one of the following three ratings:

A - Growth can be accommodated with little or no adverse impact to existing community infrastructure and at little or no additional expense.

B - Growth can be accommodated, but will require some investment to improve and/or expand existing community infrastructure.

C - Growth either cannot be accommodated due to physical/environmental limitations or would require substantial investment in community infrastructure improvements.

Table 2.a., "Local Communities": This first table refers to the local community (i.e., the community in which the base is located) and its ability to meet the increased requirements of the installation.

Table 2.b., "Economic Region": This second table asks for an assessment of the infrastructure of the economic region (those counties identified in response to question 1.b., (page 3) - taken in the aggregate) and its ability to meet the needs of additional employees and their families moving into the area.

For both tables, annotate with an asterisk (*) any categories which are wholly supported on-base, i.e., are not provided by the local community. These categories should also receive an A-B-C rating. Answers for these "wholly supported on-base" categories should refer to base infrastructure rather than community infrastructure.

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

a. Table A: Ability of the local community to meet the expanded needs of the base.
1) Using the **A - B - C** rating system described above, complete the table below.

Category	20% Increase	50% Increase	100% Increase
Off-Base Housing	A	A	A
Schools - Public	A	A	A
Schools - Private	A	A	A
Public Transportation - Roadways	A	A	A
Public Transportation - Buses/Subways	A	A	A
Public Transportation - Rail	N/A	N/A	N/A
Fire Protection	A	A	A
Police	A	A	A
Health Care Facilities	A	A	A
Utilities:			
Water Supply	A	A	A
Water Distribution	A	A	A
Energy Supply	A	A	A
Energy Distribution	A	A	A
Wastewater Collection	A	A	A
Wastewater Treatment	A	A	A
Storm Water Collection	A	A	A
Solid Waste Collection and Disposal	A	A	A
Hazardous/Toxic Waste Disposal	A	A	A
Recreational Activities	A	A	A

Remember to mark with an asterisk any categories which are wholly supported on-base.

2) For each rating of "C" identified in the table on the preceding page, attach a brief narrative explanation of the types and magnitude of improvements required and/or the nature of any barriers that preclude expansion.

"C" Ratings - None

Public Transportation - Rail: Not available at this time in Louisville/Jefferson County.

Source of Data (2.a. 1) & 2) - Local Community Table): Louisville/Jefferson County, Office for Economic Development

b. Table B: Ability of the region described in the response to question 1.b. (page 3) (taken in the aggregate) to meet the needs of additional employees and their families relocating into the area.

1) Using the **A - B - C** rating system described above, complete the table below.

Category	20% Increase	50% Increase	100% Increase
Off-Base Housing	A	A	A
Schools - Public	A	A	A
Schools - Private	A	A	A
Public Transportation - Roadways	A	A	A
Public Transportation - Buses/Subways	A	A	A
Public Transportation - Rail	N/A	N/A	N/A
Fire Protection	A	A	A
Police	A	A	A
Health Care Facilities	A	A	A
Utilities:			
Water Supply	A	A	A
Water Distribution	A	A	A
Energy Supply	A	A	A
Energy Distribution	A	A	A
Wastewater Collection	A	A	A
Wastewater Treatment	A	A	A
Storm Water Collection	A	A	A
Solid Waste Collection and Disposal	A	A	A
Hazardous/Toxic Waste Disposal	A	A	A
Recreation Facilities	A	A	A

Remember to mark with an asterisk any categories which are wholly supported on-base.

2) For each rating of **"C"** identified in the table on the preceding page, attach a brief narrative explanation of the types and magnitude of improvements required and/or the nature of any barriers that preclude expansion.

"C" Ratings - None

Public Transportation - Rail: Not available at this time in Louisville/Jefferson County.

Source of Data (2.b. 1) & 2) - Regional Table): Louisville/Jefferson County, Office for Economic Development

3. Public Facilities Data:

a. **Off-Base Housing Availability.** For the counties identified in the response to question 1.b. (page 3), in the aggregate, estimate the current average vacancy rate for community housing. Use current data or information identified on the latest family housing market analysis. For each of the categories listed (rental units and units for sale), combine single family homes, condominiums, townhouses, mobile homes, etc., into a single rate:

Rental Units:
The average vacancy rate is 7 - 8 % for the Metro area.

Units for Sale:
In Jefferson, Floyd, and Clark Counties the average vacancy rate is 1 %.

Source of Data (3.a. Off-Base Housing): Louisville Apartment Association, Louisville Board of Realtors

b. Education.

1) Information is required on the current capacity and enrollment levels of school systems serving employees of the activity. Information should be keyed to the counties identified in the response to question 1.b. (page 3).

School District	County	Number of Schools			Enrollment		Pupil-to-Teacher Ratio		Does School District Serve Gov't Housing Units? *
		Element-ary	Middle	High	Current	Max. Capacity	Current	Max. Ratio	
Jefferson County Schools *	Jefferson	167	102	56	123,463	129,166	18.7:1	21.0:1	Yes
Clark County Schools	Clark	15	6	7	14,621	15,471	18.6:1	22:1	Yes
Bullitt County Schools	Bullitt	9	4	4	10,286	10,786	19.3:1	21.6:1	Yes
Hardin County Schools	Hardin	15	8	2	14,122	16,500	18.9:1	20.6:1	No
Floyd County Schools	Floyd	14	2	3	12,133	12,500	28.1:1	30:1	No
Oldham County Schools	Oldham	6	2	2	7,177	8,000	23.6:1	25:1	No

* Answer "Yes" in this column if the school district in question enrolls students who reside in government housing.

* NOTE: In addition, JCPS has 2 Technical Schools, 11 Special Education Programs, and 10 Outreach Programs.

Source of Data (3.b.1) Education Table): Jefferson County Public School System/ Anchorage Public School System/ Catholic School System

2) Are there any on-base "Section 6" Schools? If so, identify number of schools and current enrollment.

None.

Source of Data (3.b.2) On-Base Schools): NSWC Crane Division, Military Management Supervisor. Contact: Fabio Arellano

3) For the counties identified in the response to question 1.b. (page 3), in the aggregate, list the names of undergraduate and graduate colleges and universities which offer certificates, Associate, Bachelor or Graduate degrees :

University of Louisville
Bellarmine College
Spalding University
McKendree College
Jefferson Community College
Southern Baptist Theological Seminary
Louisville Presbyterian Theological Seminary
Indiana University Southeast
Webster University

Source of Data (3.b.3) Colleges): Louisville Area Chamber Of Commerce

4) For the counties identified in the response to question 1.b. (page 3), in the aggregate, list the names and major curriculums of vocational/technical training schools:

Louisville Technical Institute - Marine Technology: Architectural/Mechanical Engineering
Sullivan Junior College of Business - Business Administration; Accounting
Spencerian Business College - Practical Nursing; Office Administration; **Microcomputers**
National Education Center - Business Technology
Jefferson State Vocational Tech - Industrial Electronics
RETS Electronic Institute - Electronic Technology
IVY Tech Southcentral - Medical, Business, Computer, Automotive, and Industrial **Arts**
Prosser Vocational School - Automotive; Industrial Arts; Mechanical Arts; Health Care; Bldg Trades; Computer Arts; Secretarial/Clerical and Business

Source of Data (3.b.4) Vo-tech Training): Career College Association

c. Transportation.

1) Is the activity served by public transportation?

	Yes	No
Bus:	X	
Rail:		X
Subway:		X
Ferry:		X

Source of Data (3.c.1) Transportation): Louisville/Jefferson County Office for Economic Development

2) Identify the location of the nearest passenger railroad station (long distance rail service, not commuter service within a city) and the distance from the activity to the station.

Cincinnati, Ohio - 110 miles

Source of Data (3.c.2) Transportation): Louisville/Jefferson County Office for Economic Development

3) Identify the name and location of the nearest commercial airport (with public carriers, e.g., USAIR, United, etc.) and the distance from the activity to the airport.

Standiford Field, Louisville, KY -- 2 miles

Source of Data (3.c.3) Transportation): Louisville/Jefferson County Office of Economic Development

4) How many carriers are available at this airport?

13

Source of Data (3.c.4) Transportation): Regional Airport Authority

5) What is the Interstate route number and distance, in miles, from the activity to the nearest Interstate highway?

I-64 : 6.5 miles
I-65 : 2.5 miles
I-71 : 7.25 miles
I-264 : 1.75 miles
I-265 : 3.5 miles

Source of Data (3.c.5) Transportation): Louisville/Jefferson County Office for Economic Development

6) Access to Base:

a) Describe the quality and capacity of the road systems providing access to the base, specifically during peak periods. (Include both information on the area surrounding the base and information on access to the base, e.g., numbers of gates, congestion problems, etc.)

Southside Drive is a three-lane minor arterial in excellent condition with an on-station collector road providing access to three gates. Strawberry Lane is a two-lane collector in good condition with four access gates. There are currently **no** congestion problems.

b) Do access roads transit residential neighborhoods?

No - Southside Drive serves as a minor arterial. Strawberry Lane is a collector but does not transit residential neighborhoods.

c) Are there any easements that preclude expansion of the access road system?

No.

d) Are there any man-made barriers that inhibit traffic flow (e.g., draw bridges, etc.)?

No.

Source of Data (3.c.6) Transportation): Kentucky/Indiana Planning Development Association

d. Fire Protection/Hazardous Materials Incidents. Does the activity have an agreement with the local community for fire protection or hazardous materials incidents? Explain the nature of the agreement and identify the provider of the service.

Yes. Fire protection afforded by the City of Louisville extends to all entities within the City's boundaries. This includes the NSWC, Louisville. Response by the Division of Fire would be made immediately upon receipt of an alarm. Planned first alarm response to Gate 1 of the Station would be by four (4) units; Engine Company #23, Engine Company #10, Aerial Truck Company #8, and Third District Chief, all located 1.2 miles from the Station.

Similar response would be added for a fire of magnitude through 7 levels of alarm. Specialized equipment such as chemical and lighting units would respond as needed, on order from the Fire Scene Commander.

Source of Data (3.d. Fire/Hazmat): NSWC, Louisville, Fire Chief, Contact: William D. Gay

e. **Police Protection.**

1) What is the level of legislative jurisdiction held by the installation?

Exclusive, except for a small area that is proprietorial.

2) If there is more than one level of legislative jurisdiction for installation property, provide a brief narrative description of the areas covered by each level of legislative jurisdiction and whether there are separate agreements for local law enforcement protection.

The major area is comprised of exclusive jurisdiction, with the exception of a small area that was obtained recently and is classified proprietorial. The police protection for both areas is provided by the Station's Security Department. To provide our Police Officers with "Arrest Authority" in the proprietorial area, our Police Officers have been sworn-in as Special Police Officers with the Safety Director's Office, City of Louisville. There are no agreements for Local/Municipal Law Enforcement Protection.

3) Does the activity have a specific written agreement with local law enforcement concerning the provision of local police protection?

Yes. An agreement is in effect with the Louisville Division of Police to provide specialized police services in the event of a hostage situation that would require a Special Response Team (SRT). The response would be at the request of Command.

4) If agreements exist with more than one local law enforcement entity, provide a brief narrative description of whom the agreement is with and what services are covered.

N/A.

5) If military law enforcement officials are routinely augmented by officials of other federal agencies (BLM, Forest Service, etc.), identify any written agreements covering such services and briefly describe the level of support received.

N/A

Source of Data (3.e. 1) - 5) - Police): NSWC, Louisville, Security Department, Contact: Larry Patterson

f. Utilities.

1) Does the activity have an agreement with the local community for water, refuse disposal, power or any other utility requirements? Explain the nature of the agreement and identify the provider of the service.

NSWC, Louisville does not have agreements with the local community for utilities or services. Utilities and services are provided by contracts with commercial entities as follows:

Electricity - Long term contract with Louisville Gas and Electric Company

Natural Gas - Long term contract with Louisville Gas and Electric Company

Water - Long term contract with Louisville Water Company

Sewer - Long term contract with Metropolitan Sewer District

Solid Waste - Long term contract with Industrial Services of America

2) Has the activity been subject to water rationing or interruption of delivery during the last five years? If so, identify time period during which rationing existed and the restrictions imposed. Were activity operations affected by these situations? If so, explain extent of impact.

NSWC, Louisville has not been subjected to water rationing or interruption of delivery during the last five years.

3) Has the activity been subject to any other significant disruptions in utility service, e.g., electrical "brown outs", "rolling black outs", etc., during the last five years? If so, identify time period(s) covered and extent/nature of restrictions/disruption. Were activity operations affected by these situations? If so, explain extent of impact.

NSWC, Louisville has not been subject to any other significant disruptions to utilities or services in the last five years.

Source of Data (3.f. 1) - 3) Utilities): NSWC Louisville, Public Works Department, Contact: Kevin J. McGrew

4. Business Profile. List the top ten employers in the geographic area defined by your response to question 1.b. (page 3), taken in the aggregate, (include your activity, if appropriate):

Employer	Product/Service	No. of Employees
1. UNITED PARCEL SERVICE	package pick-up/delivery (National Hub)	10,792
2. JEFFERSON COUNTY PUBLIC SCHOOLS	public education	10,455
3. GENERAL ELECTRIC APPLIANCES	mf'g of major home appliances	10,000
4. FORD MOTOR COMPANY	truck manufacturer	6,665
5. COLUMBIA HEALTHCARE CORP	hospitals & healthcare facilities	6,600
6. JEWISH HOSPITAL HEALTH CARE SERVICES	non-profit healthcare	4,734
7. UNIVERSITY OF LOUISVILLE	higher education	4,111
8. ALLIANT HEALTH SYSTEM	non-profit healthcare	3,679
9. CITY OF LOUISVILLE	city government	3,341
10. LOUISVILLE GAS & ELECTRIC	public utility	3,054

Source of Data (4. Business Profile): Louisville/Jefferson County Office of Economic Development

*** U.S. Govt. employs 11,900 regionally**
Commonwealth of Kentucky employs 4,612 regionally

5. **Other Socio-Economic Impacts. For each of the following areas, describe other recent (past 5 years), on-going or projected economic impacts (both positive and negative) on the geographic region defined by your response to question 1.b. (page 3), in the aggregate:**

a. Loss of Major Employers:

Indiana Army Ammunition Plant	900
Alcan Foil Products	311
American Standard	300
Rockwell International - Plastics Division	135
Southern States Building Products	109
Standard Gravure	200
VBM Corporation	110
Aluminum Cruisers	150
Armour Foods	925
Brockway Plastics	135
H.J. Scheirich	274
Wohlleb's Bakeries	100
Vulcan Hart Corporation	279

b. Introduction of New Businesses/Technologies:

Airport Expansion - 2 new parallel runways to be completed in 1995.
UPS - International Air Hub employing up to 12,000; supported by Aviation Magnet Program in Jefferson County Schools.
Telecommunications Center - Research and training in advanced applications of data transmission.
Fiber Optics - Crossroads of three (3) major interstate communication networks.
Ford Truck Plant - $650 million expansion of 1,000,000 sq.ft., adding 1,500 new manufacturing jobs.
Columbia Healthcare Corporation - Locating headquarters in Louisville, adding 300 jobs.

c. Natural Disasters:

Bullitt County - Flooding, March 1989
Clark County - Tornado, June 1990
Clark County - Flooding, January 1991
Clark County - Flooding, August 1992
Kentucky Winter Emergency Disaster - January 1994
These disasters qualified for Federal assistance but were not widespread in scope, except for the January 1994 snowstorm. The Station location was not affected directly, except for the January 1994 snowstorm.

d. Overall Economic Trends:

Greater Louisville's economy has fared much better during the last recession than most of the country. Since 1985 the region has grown and diversified, adding 89,500 net new jobs. The growth has been in health services, business services, transportation and government. Manufacturing employment represents 17.9 percent, mirroring the national average.

Source of Data (5. Other Socio/Econ): Kentucky Economic Development Cabinet, Kentucky Department of Employment Services, University of Louisville - Bureau of Economic Research, Louisville/Jefferson County Office for Economic Development

6. Other. Identify any contributions of your activity to the local community not discussed elsewhere in this response.

The surrounding community and the Station are closely intertwined and support for each other is a vital part of that relationship. The Station and it's employee organizations sponsor many activities in which the community and Station employees both participate.

The Morale Welfare and Recreation Board (MWR), the Naval Ordnance Volunteering Our Service (NOSVOS), International Association of Machinists, and the Supervisors' Association employee organizations as well as individual employees are very active in community support. Projects include:

Athletic team sponsorships for basketball, softball, volleyball and golf

Americana Apartment Community (a low income housing community) - renovation and beautification of the complex community center and provide a Christmas party and periodic donations of food and clothing

Clothe-A-Child program - set up distribution sites for donations of clothing for underprivileged children in the Louisville area

Home of the Innocents - participation in activities for children in a pediatric medical facility for mentally retarded and physically impaired infants, toddlers and teenagers

City of Louisville Operation Brightside - volunteers for community clean up and remove refuse

Salvation Army Angel Tree foundation - individuals volunteer time in setting up and manning booths in various local shopping malls for donations of new clothing items for needy families at Christmas

Dare to Care/Kentucky Harvest - donations of food items

Toys for Tots - contribution of new toys at Christmas for needy children

Kentucky Lions Eye Bank - set up donation sites for old used eyeglasses

Spouse Abuse Center, St. John's Ministries, and Wayside Christian Mission - donations of clothing, shoes, household, and personal items

Hazelwood Immediate Care Facility/Mental Retardation - assist and participate in planned activities such as shows, presentations and ice cream parties for patients

Alcoholics Anonymous - use of Station facilities for support group meetings

St. Vincent Depaul Home (a homeless shelter) - provide general supplies and personal items

Christmas basket program - provides assistance for the underprivileged in the local neighborhood

St. Joseph Orphanage - coordinate and participate in an annual fishing trip for children from the orphanage

Guide Dogs of America (a program for sightless people) - provides support for the acquisition of the animals, and the training and transportation of the recipients.

Jr. ROTC - sponsor a drill competition for 15 area schools
Annual Veterans Day Parade - assist in city-wide preparations
Disaster assistance - coordinates assistance for the community
Public Television Station - employees participate in the annual funding drive

Station organizations involvement in major community events includes:

Naval Ordnance Community Day - a festival and open house that provides money for Navy and Marine Relief

Independence Day Celebration - organizes and provides Station acreage for crafts and activity booths and a fireworks display

Kentucky Derby Pegasus Parade - provides a float for the annual parade

American Red Cross Regional Blood Program - Station employees donate 6.6% of the blood donated in Jefferson County

Combined Federal Campaign (CFC) - Station employees are major contributors to this program, providing $130,000 in 1993. The Station also provides a Loaned Executive for the CFC.

Beechmont Youth Program - Station provides space and support for baseball and soccer fields. (There are 1500 children participating in this program.)

The Station also works with the **local school systems** to provide tours and a Job Shadowing Program with employees for the students and encourages vocational teachers to participate in an on-site program to increase their knowledge of the industry. The Station also provides part time jobs for special needs high school students. Another program for students is the "Inspire Program" in conjunction with the **University of Louisville**. This program encourages women and minorities to choose careers in engineering and technical fields.

Source of Data (6. Other): NSWC, Louisville Morale, Welfare and Recreation Board, Public Affairs Office, International Association of Machinists Union Local 830, NSWC, Louisville Supervisor Association

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

NEXT ECHELON LEVEL (if applicable)

R.W. GILBERT
NAME (Please type or print)

Signature

DEPUTY COMMANDER
Title

14 JULY, 1994
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. SARGENT, JR.
NAME (Please type or print)

Signature

COMMANDER
Title

7/19/94
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

G. R. STEPNER
NAME (Please type or print)

Signature

Title

7/25/94
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

8/4/94

Title

Date

DATA CALL #65
LOUISVILLE SITE

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

R.W. GILBERT
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

14 JULY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

DATA CALL #65
LOUISVILLE SITE

Document Separator

DATA CALL 1: GENERAL INSTALLATION INFORMATION

N00197

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

- Name

Official name	*Crane Division, Naval Surface Warfare Center, Naval Ordnance Station, Louisville, Ky.*
Acronym(s) used in correspondence	*NAVSURFWARCEN ORDSTA*
Commonly accepted short title(s)	*Louisville / NOSL*

- Complete Mailing Address

Commanding Officer
NAVSURFWARCEN ORSTA
5403 Southside Drive
Louisville, Ky. 40214-500

- PLAD

NAVSURFWARCEN ORDSTA Louisville, Ky.

- PRIMARY UIC: N00197 (Plant Account UIC for Plant Account Holders)

Enter this number as the Activity identifier at the top of each Data Call response page.

- ALL OTHER UIC(s): _____ PURPOSE: _____

_____ _____

_____ _____

N00197

2. PLANT ACCOUNT HOLDER:

- Yes _X_ No _____ (check one)

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

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

  - Yes _X_ No ____ (check one)

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

  - Yes ____ No _X_ (check one)
  - Primary Host (current) UIC: _____
  - Primary Host (as of 01 Oct 1995) UIC: _____
  - Primary Host (as of 01 Oct 2001) UIC: _____

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

  - Yes _____ No _X_ (check one)

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

Name	Location	UIC
N/A		

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

Name	UIC	Location	Host name	Host UIC
N/A				

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

BRAC 91 - The BRAC 91 decision consolidated this command, the Naval Ordnance Station, Louisville, Kentucky, with the Naval Weapons Support Center, Crane, Indiana. This consolidaton established the Crane Division as an element of the Naval Surface Warfare Center. Mechanical workload was consolidated at the Louisville site and electronics workload was consolidated at the Crane site.

As a result of the BRAC 91 actions, the general and administrative support services for the Crane Division were consolidated at the Crane site with a savings of 203 indirect G&A workyears. This savings was 73 workyears beyond the 130 figure required by the BRAC 91 decision. In addition, many of the management information systems supporting the two sites have been consolidated into Crane Division or Naval Surface Warfare Center wide systems.

N00197

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

Current Missions

NAVAL GUN WEAPONS SYSTEMS ENGINEERING & INDUSTRIAL SUPPORT (LOUISVILLE SITE)

- Provide engineering leadership for the Navy in the acquisition, production and operational life cycle support of emerging and inservice naval gun systems/equipment

- Preserve and maintain organic technical capability (corporate memory) of sufficient breadth, depth and continuity to assure that the Navy continues as a smart buyer of naval gun weapons systems/equipment

- Preserve and maintain capability to manufacture naval gun weapons systems/equipment, if the private sector base is lost

- Establish and maintain technological partnerships with the private sector through defense conversion and technology transfer

SURFACE MISSILE SYSTEMS LAUNCHERS ENGINEERING/INDUSTRIAL SUPPORT (LOUISVILLE SITE)

- Provide capabilities and certified facilities, equipment and procedures for overhaul of surface missile systems launchers, weapons systems and subsystems

MECHANICAL MANUFACTURING/REPAIR/OVERHAUL (LOUISVILLE SITE)

- Provide engineering analysis of mechanical devices and related equipments from research and development through acquisition and final system retirement

- Execute the responsibilities as Department of Defense designated test activity for developing, verifying and applying new/emerging technology to all phases of product engineering

- Preserve and maintain last source repair and fabrication capabilities for mechanical devices

- Provide mechanical engineering/manufacturing support for other Crane Division Technical Capabilities

NOO197

MANAGEMENT & DISTRIBUTION OF NAVAL DRAWINGS (LOUISVILLE SITE)

- Provide a repository for Naval Ordnance and Strategic Systems Programs technical data

- Maintain secure storage facility (27,000 square foot Class "A" security vault) for large amounts of classified data

- Provide the central engineering drawings locator index and ordering function for Navy engineering drawings

- Perform research, analysis and testing of equipment/systems that convert engineering data to digital format for the Joint Engineering Data Management Information and Control System (JEDMICS) Program Management Office

SHIPBOARD PHYSICAL SECURITY (LOUISVILLE SITE)

- Execute the Program Manager responsibilities for the shipboard physical and nuclear weapons security program

- Analyze technology to select and procure advanced shipboard physical security equipments/systems for the Chief of Naval Operations platform sponsors

- Perform research and development, test, and evaluation of physical security equipment

- Provide life cycle logistics support and upgrades for fielded shipboard physical security equipment

Projected Missions for FY 2001

UNCHANGED

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

Current Unique Missions

The Naval Surface Warfare Center has a unique mission in 14 Leadership Areas. They are: 1) Surface Warfare Modeling and Analysis; 2) Surface Ship Combat and Combat Control Systems; 3) Surface Ship Electronic Warfare; 4) Surface Ship Electromagnetic and Electro-optic Reconnaissance, Search and Track Systems; 5) Surface Ship Weapon Systems; 6) Ship Vulnerability and Survivability; 7) Ship Active and Passive Signatures; 8) Surface and Undersea Vehicle Hull, Machinery, Propulsors and Equipment; 9) Platform Systems Integration; 10) Strategic Targeting Support; 11) Amphibious Warfare Systems; 12) Special Warfare Systems; 13) Warheads; and 14) Mines, Mine countermeasures and Mine Clearance Systems.

The Crane Division (Louisville site) performs engineering assignments in the Leadership Areas of: 1) Surface Warfare Modeling and Analysis; 2) Surface Ship Combat and Combat Control Systems; 3) Surface Ship Electronic Warfare; 4) Surface Ship Electromagnetic and Electro-optic Reconnaissance, Search and Track Systems; 5) Surface Ship Weapon Systems; 6) Ship Vulnerability and Survivability; and 9) Platform Systems Integration.

Projected Unique Missions for FY 2001

NA

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

• Operational name	UIC
Commander, Crane Division NSWC	00164

• Funding Source	UIC
DBOF	Multiple

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

On Board Count as of 01 January 1994

	Officers	Enlisted	Civilian (Appropriated)
• Reporting Command	3	7	2264
• Tenants (total)	1	1	42
SELRES Units	0	0	0

Authorized Positions as of 30 September 1994

	Officers	Enlisted	Civilian (Appropriated)
• Reporting Command	5	7	2101
• Tenants (total)	1	0	41
SELRES Units	0	0	0

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

Title/Name	Office	Fax	Home
• CO/OIC			
Capt. Richard W. Gilbert	502-364-5211	502-364-6263	502-363-0164
• Duty Officer	502-364-5203	502-364-5198	[N/A]
• BRAC Coordinators			
Bob Matthews	812-854-1534	812-854-4384	812-295-2798
Joe Bohn	502-364-5673	502-364-5681	502-363-6632

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

- Tenants residing on main complex (shore commands)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
Defense Printing Service Branch Office	43636	0	0	14
Navy Criminal Investigative Service	N63054	0	0	1
Defense Finance and Accounting Service, Cleveland, Louisville	00034	0	0	21
Naval Facility Engineering Command Southern Division	N62467	1	0	4
Customer Service Branch Personnel Support Activity Detachment Indianapolis	43050	0	0	1

- Tenants residing on main complex (homeported units.)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
N/A				

N00197

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

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
N/A					

- Tenants (Other than those identified previously)

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
N/A					

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

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Naval and Marine Corps Reserve Center	*Louisville, KY*	* *Security (ISSA)* * *Naval communications message receipt and transmission* * *Provide family housing administration* * *Calibration of mechanical and electronic devices* * *Provide small and large purchase contracting services* * *Financial and Accounting Services, Fire Protection, Employee Services, Lock and Key, Transportation, Safety, Telephones, Community services for active duty, EEO Counseling, Military ID's, Vehicles*
Marine Corps Inspector and Instructor staff	*Evansville, IN*	* *Naval communications message receipt and transmission (ISSA)*
Naval Recruiting District	*Louisville, KY*	* *Naval communications message receipt and transmission, Financial, Military Personnel Services, (ISSA)*
Marine Corps Recruiting Station	*Louisville, KY*	* *Naval communications message receipt and transmission (ISSA)*
Army Corps of Engineers	*Louisville, KY*	* *Calibration and Communication Center (ISSA)*

N00197

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Defense Mapping Agency	*Louisville, KY*	* *Calibration of mechanical and electronic devices (ISSA)*
Indiana Census Bureau	*Jeffersonville, IN*	* *Calibration of mechanical and electronic devices (ISSA)*
Kentucky Air National Guard	*Louisville, KY*	* *Calibration of mechanical and electronic devices (ISSA)*
Coast Guard	*Louisville, KY*	* *Calibration of mechanical and electronic devices (ISSA)*
Foreign Militaries	*Turkey; Saudi Arabia*	* *Calibration of mechanical and electronic devices (ISSA)*
Naval Weapons Station	*Earle, NJ*	* *Procurement support (Memorandum of Agreement)*
Naval Air Warfare Center, Aircraft Division	*Indianapolis, IN*	* *Navy Civilian Personnel Data System backup (ISSA)*

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

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

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

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

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

UIC 00164, 00197

JL
SEA 04X
2/16/94

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. S. Howard
NAME (Please type or print)

Signature

Commander
Title

2/5/94
Date

Crane Div, NSWC
Activity

BRAC-95
DATA CALL #1
CRANE DIV.
JL
SEADIX
2/16/94

UIC 00164, 00197

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

NEXT ECHELON LEVEL (if applicable)

E.S. McGINLEY II
NAME (Please type or print)

Signature

COMMANDER
Title

2/9/94
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.~~

~~NEXT ECHELON LEVEL (if applicable)~~

NAME (Please type or print)

Signature

Title

Date

Activity

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

MAJOR CLAIMANT LEVEL

K. P. Malley
NAME (Please type or print)

Signature

Commander
Title

2/16/94
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)

S. F. Loftus
NAME (Please type or print)

Signature

Navy
Deputy Chief of Naval
Operations (Logistics)
Title

23 FEB 1994
Date

Document Separator

195

"LAB" JOINT CROSS-SERVICE GROUP GUIDANCE PACKAGE

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
LOUISVILLE, KENTUCKY SITE

Section I: Taskings
1.1 Guidelines
1.2 Standards
1.3 Assumptions
1.4 Measures of Merit
1.5 Activities
1.6 Common Support Functions

Section II: Capacity of DOD Components
2.1 Workload
2.2 Excess Capacity

Section III: Capability of Activities to Perform Common Support Functions
3.0 Mission
3.1 Location
3.2 Personnel
3.3 Workload
3.4 Facilities & Equipment
3.5 Expansion Potential

Section IV: Appendices
A. Macro Process/Schedule
B. List of Activities
C. Common Support Functions

SECTION I: TASKING

In accordance with the Deputy Secretary of Defense memorandum dated 7 Jan 94, the Laboratory Joint Cross-Service Group (LJCSG) with DOD components should, where operationally and cost effective, strive to: retain in only one Service militarily unique capabilities used by two or more Services; consolidate workload across the Service to reduce capacity; and assign operational units from more than one Service to a single base. Specifically, the purpose of the LJCSG is:

- Determine common support functions and bases to be addressed by LJCSG
- Establish guidelines, standards, assumptions, measures of merit, data elements and milestone schedules for DOD Component conduct of cross-service analysis of common support functions
- Review excess capacity analysis
- Develop closure or realignment alternatives
- Analyze cross-service trade-offs

The following information identifies to the Services common support functions and data element requirements necessary to support the cross-service analysis of these common support functions.

1.1 Guidelines

Because the DOD components are organized differently, "Lab" activities are considered to be those involved in the following life cycle efforts: Science and technology, and/or engineering development, and/or in-service engineering.

Service missions and force structure will be as stipulated in the FY1995-2000 Defense Planning Guidance and Interim Force Structure Plan.

The Military Departments will use the projected funding in the FY95 President's Budget Submission (Future Years Defense Plan -- FYDP) and an estimate of funds that will be received from outside the military department for execution.

If "lab" excess capacity exists, the Military Departments will start to reduce it where operationally and cost effective through a combination of downsizing in place within the departments, internal service consolidation, and cross service alternatives.

The Military Departments will gather, exchange, and analyze data collected per this guidance call for Common Support Functions (Appendix C) at "lab" activities (Appendix B) in accordance with the milestones and schedule dates identified in Appendix A.

Cross-service alternatives will result in an aggregate reduction in the overall "lab" infrastructure across the Military Departments -- personnel/funding/facilities and equipment.

Common cross-service Measures of Merit will be consistently applied for all cross-service alternatives.

Integration of weapon systems/components into operational forces will remain with the individual Military Departments responsible for those forces.

1.2 Standards

Evaluation of cross-service alternatives will be consistent with PL 101-510 (as amended) and the eight BRAC criteria. Only certified data will be used.

The COBRA cost model will be used to calculate estimated costs, estimated savings, and Return on Investment (ROI) of alternatives leading to proposed closures and realignments. Common inputs will be used for Military COBRA runs incorporating cross-service alternatives.

Military value analysis will be conducted by the Military Departments IAW Title 10, USC responsibilities.

1.3 Assumptions

"Lab" Common Support Functions and activities identified herein represent the major opportunities for developing cross-service alternatives. The Military Departments are not precluded from proposing other cross-service alternatives to reduce excess capacity as they assess the full complement of "lab" functions.

Previous BRAC decisions will be factored into cross-service alternatives.

"Lab" capacity will be based on budgeted workyears. A workyear is considered to be 2080 hours adjusted for time not on the job (e.g. sick leave, annual leave, etc.)

1.4 Measures of Merit

The following Measures of Merit represent the outcome from the DOD component final realignment and closure recommendations that are supported by the capabilities data which will be gathered by activity and common support function in Section III of this guidance.

- Reduction of "lab" infrastructure
- Return on investment (COBRA)
- Military value (BRAC criteria 1-4) -- the composite assessment of the quality of the remaining "lab" infrastructure

1.5 Activities

The Military Departments will collect capacity data for each "lab" activity identified in Appendix B. The "lab" activities were selected by considering all individual aggregates of personnel and facilities located at one base, under the same commander, performing predominantly science and technology (S&T), engineering development, and/or in-service engineering work. Small subelements of these "lab" activities were included with the activity. Larger subelements were broken out and defined as separate activities. The list of activities was then narrowed down to the list in Appendix B based on a joint Military Department assessment of common support functions with cross-service potential.

1.6 Common Support Functions

The common support functions (CSFs) were selected as shown in Appendix C based on a joint Military Department assessment of commonalty and cross-servicing potential. Common support functions which were already consolidated and being cross serviced were not included.

Common Support Functions are divided into two categories: product and pervasive. Product functions include all S&T, engineering development, and in-service engineering efforts associated with a product from all funding sources. Pervasive functions only include those efforts that are S&T funded, i.e. Technology Base (6.1)/Exploratory Development (6.2)/Advanced Development (6.3).

SECTION II: CAPACITY OF DOD COMPONENTS

2.1 Workload. Use the following table to describe historic and projected workload at ach activity in terms of funding and workyears. Assume previous BRAC closures and realignments are implemented on schedule. Projected funding will be derived from FY95 President's Budget Submission (Then year dollars). Past fiscal year data shall begin with FY86 or at the inception of the activity as it existed on 1 Oct 93. (BRAC Criteria I & IV)

Information Required	Fiscal Years											
	86	87	88	89	90	91	92	93	94	95	96	97
Total Funds Programmed ($M)	139	165	134	145	152	163	192	199	207	187	195	188
Total Actual Funds ($M)	128	140	126	162	192	196	190	217				
Programmed Workyears	2493	2527	2532	2472	2251	2264	2705	2561	2229	2120	1857	1746
Actual Workyears	2559	2413	2386	2472	2589	2666	2663	2462				

• Budgeted workyears are the selected indicator of the "lab" infrastructure's capacity at an aggregate level for each Military Department. They include both workyears funded directly by the Military Department and the workyears funded from organizations outside the Military Dept.
Workyears = government personnel and on-site FFRDCs and SETAs
Note: Table 2.1 above represents all workload (including depot). For FY94 - FY97 the Louisville site budget is 37% of the Crane Division's joint budget submittal.

Table 2.1.1

Information Required	Fiscal Years											
	86	87	88	89	90	91	92	93	94	95	96	97
Total Funds Programmed ($M)	0	0.3	4.2	1.5	1.3	1.3	2.1	6.6	9.4	12.2	11.8	11.8
Total Actual Funds ($M)	0	0.3	4.2	1.5	1.3	2.2	1.5	5.1				
Programmed Workyears	0	3	10	10	17	22.8	19.9	45.7	43.4	38.6	35.1	35.7
Actual Workyears	0	4	7	10	14.5	14.6	14.7	38.8				

Table 2.1.1 represents that portion of Table 2.1 Workload that supports the Common Support Functions (Product/Pervasive). No Pervasive Functions are supported and the only Product Function supported is for Weapons (Gun & Ammunition). These workload figures are for the S&T, Engineering Development and In-Service Engineering efforts associated with 6.1 thru 6.6 type funding.

2.2 Excess "Lab" Capacity -- Measured at the DOD Component Level

• Excess "Lab" Capacity = Sum of the Peak Workyears - Sum of the Projected Workyears
-- Peak at each activity = Highest value between FY86 (or since inception of organization) and FY93
-- Projected at each activity = Estimated at FY97

38.8 (FY93) - 35.7 (FY97) = 3.1

SECTION III: CAPABILITY OF ACTIVITIES TO PERFORM COMMON SUPPORT FUNCTIONS (CSFs): Provide the information described for each common support function listed in Appendix C in which you are actively engaged.

3.0 Mission: Describe the major capabilities at your activity contributing to the common support function in bulletized format. Describe any relationship and interconnectivity with other functions (common or otherwise) in support of the overall activity mission.

- NAVSEA Program Manager for Shipboard Physical Security Programs
- Technical Direction
- Acquisition Engineering
- In-Service Engineering
- Non-Developmental Item (NDI) Test and Evaluation
- Design Engineering
- Logistics Support
- Maintenance Support
- Fleet Installation
- Depot Support

This capability is the knowledge and skills of highly specialized professional engineering and technical personnel integrated into a **"state of the art"** engineering/industrial facility. The specialized knowledge and skills needed to perform this capability **can only be acquired through years of hands-on experience**, formal education, and specialized training. The facility supporting this capability is **"unique" because it is the only remaining facility within DoD** having both the capability and capacity to provide **full-spectrum life cycle support** for highly complex Naval Gun Weapons Systems. This capability, which satisfies DON's Imperative to maintain readiness, **could only be replicated at great expense or not at all**. This capability supports DON's Acquisition/Contracting Imperative to retain the ability to function as a **"smart buyer"** of NGWS/ equipments. This capability ensures that suppliers perform to contract requirements, systems meet operational requirements, contract and financial management expertise are retained to perform inherent governmental functions within the life cycle support process. This capability satisfies DON's Depot/Industrial/Maintenance/ Engineering Imperative by providing an **organic depot capability which can meet surge and mobilization requirements**; selectively fabricate, modify or repair weapon systems as a means to **control costs and mitigate risks** of supplier failure (Last Source of Repair, LSOR); and control access and disassembly to assess in-service industrial conditions of weapon systems. Our **rapid response ability** in crisis situations was demonstrated during Operation Desert Storm. This capability would be **required for reconstitution** because it is the only remaining facility having the capability to perform this role for NGWS/

equipments. This capability **supports Level III**, Naval Gun Weapon Systems, which support a broad range of tactical missions as well as the interface requirements of Level II, Combat Weapon Systems.

NGWS are **mission critical elements of current as well as future Littoral Warfare strategies as described in "...From the Sea"**. Their importance is in the **Joint Mission Area (JMA) role** to provide Naval Gun Fire Support (NGFS) to forces ashore (e.g. Marines, Army) and Theater Air Defense (TAD) missions ensures that NSWC, Louisville will be an **enduring capability** which provides direct benefits to Fleet readiness.

The primary missions of this capability are to **provide core leadership** in the acquisition, maintenance, and operational support of in-service and emerging NGWS/equipments; **maintain the Navy's corporate memory (technical knowledge repository)** of sufficient breadth, depth, and continuity to be able to perform as a smart buyer; maintain rapid response capability for reconstitution of our Naval forces if mobilization is needed; **ensure that current and future fleet operational readiness requirements are achieved and maintained**; and through defense conversion and technological transfer initiatives, strengthen the private sector's technology base for mission critical elements of NGWS/equipments.

This capability **supports more than one product area element (PAE) by supporting both Engagement Systems (guns) and Theater Air Defense Systems**. Future operational requirements for these PAEs have been significantly influenced by the Littoral Warfare Strategies described in "...From the Sea". Due to the "operating forward" requirements of Littoral Warfare, surface combatants must operate near shore to provide NGFS in support joint operations with Marine and/or Army ground forces. Because Littoral warfare places our ships at a greater risk from multiple land, air and sea based threats, Theater Air Defense Systems will be critical to ship survivability. **NSWC, Louisville supports other product areas** due to the Littoral Warfare missions utilizing NGWS/equipments which further illustrates JMA responsibilities.

This capability performs engineering, maintenance and program management support roles for technically sophisticated NGWS/equipments. These support roles are an **inherently governmental** function from the perspective that **both sponsorship and appraisal roles are performed during the acquisition, production and operational (in-service) phases of life cycle support**. In a sponsorship role, delegated from higher authority (i.e. NAVSEA / PEOs), execution of program support during the acquisition phase involves the direction, **establishment of objectives**, initiation, approval, allocation and resource definition of assigned programs while performing the primary functions of exploration, assessment, development and evaluation. In the appraisal role, execution of program support for this capability requires the **setting of program priorities**, comparing program results and

program objectives, making decisions regarding program changes, making commitments to continue or terminate assigned program tasks while performing the primary functions of production, operation and maintenance.

An unprecedented synergy exists at NSWC/CD for acquisition, in-service and maintenance engineering capabilities necessary for life cycle support of NGWS/equipments. This is the **"only" remaining facility** that has the capability to provide full spectrum engineering, logistics, maintenance, program management and full service industrial support.

Acquisition Phase: This capability performs various engineering and management functions delegated by higher authority (i.e. NAVSEA/PEOs). In performing these various functions during the acquisition phase this capability satisfies the inherently governmental roles to sponsor and appraise NGWS/equipment support efforts. Following are listed the primary functions performed with program specific examples:

Exploration Function: The Advanced Gun Weapon System Technology and Naval Surface Fire Support Programs illustrate efforts which establish technical requirements and operational objectives, assignment, direction and oversight of both public and private efforts in the concepts definition, alternatives exploration and risk management. Further illustration in support of this function, is **support to Project Reliance** through membership on the Conventional Guns sub-panel of the Joint Directors of Laboratories. Conventional Air Surface Weaponry Panel, under the leadership of the Research Armament Development and Engineering Center at the Piccatinney Arsenal. In support of this **Tri-Service effort** we participate as members on this sub-panel as **recognized experts of conventional guns** while looking at the cooperative research efforts of conventional guns. Concurrently with this effort, this capability **contributes to the establishment of Navy policy** for conventional guns including the **establishment of Navy safety standards** for NGWS/equipments.

Assessment Function: The EX46 Optical Sight and MK 160 Gun Computer System acquisition programs illustrate support during the source selection process by participation in the **establishment, certification, validation, evaluation and definition of technical requirements** and critical design characteristics. Another example of assessment function performance is this capability's support as a member of the Technical Advisory Board to the Mason Research Institute (MRI) for the evaluation of Joint Electric Ammunitions Health and Safety issues. This is a cooperative program of MRI which utilizes the research capabilities of the Universities of Louisville, North Carolina State and Marshall. This effort contributes to the establishment of Navy safety standards.

Development Function: This capability **supports the joint Army/Navy developmental**

R

efforts for liquid propellant testing and guided munitions. NSWC/Louisville provides engineering and contract management for the development and production of a 155mm liquid propellant gun system. This effort requires Louisville to provide gun system specifications to the activities developing guided munitions in order to ensure compatability when they are integrated. Our support is further illustrated through the review for technical adequacy during the development of the EX46 Optical Sight. To ensure systems/equipments operational suitability, technical support is provided during Ships' Operational Testing, Builder's Trials, Post Shake-down Availability and for initial Combat Systems Ship Qualification Trials (CCSQTs). **While Navy Training Facilities are being established, NSWC, Louisville provides: initial interim training of Naval Forces** (i.e. the EX46 OS phased training developed and performed for the DDG-51, AEGIS Class Destroyers crews) and supports Chief of Naval Technical Training (CNTECHTRA) Naval Training Curriculum Development requirements with the **on-site Naval PHALANX Training Unit (NPTU)**. R

Evaluation Function: Currently, this capability supports the evaluation function by directing and monitoring the production contracting efforts for programs (i.e. MK 45 product improvements by FMC/ASD, Phalanx MK15 CIWS by Hughes (HMSC) and the EX46 Optical Sight by Kollmorgen).

Readiness Phase: This capability performs various engineering agent and management functions delegated by higher authority (i.e. NAVSEA/PEOs). While performing these various functions during the readiness phase this capability satisfies the inherently governmental roles to sponsor and appraise NGWS/equipments support efforts. Following are listed the primary functions performed with program specific examples:

Production Function: Production support is currently provided by NSWC, Louisville to Hughes for CIWS, to UNISYS for the MK160 GCS, to Kollmorgen for the EX46 OS and to FMC for the MK 45 Gun. Support for these efforts involves an **appraisal role in the acceptance and approval of production changes, modifications, acceptance testing, waivers, deviations, producibility reviews, etc.**.

Operation Function: In performance of its in-service engineering functions, NSWC, Louisville provides logistics, configuration control and spares support to SPCC from early design phase through fleet introduction and operational use. This capability's lead in the Reliability Based Sparing initiative on the DDG-51 AEGIS Class Destroyer is an example of **advanced logistics planning** and program support. Whenever ships are reactivated, retired or decommissioned such as with the Battleships, this capability directs and establishes the process for these efforts. Engineering fleet support is provided when Direct Fleet Support activities request assistance to **solve technical problems which impact fleet readiness**. This capability also **provides industrial training** of field service, intermediate level maintenance and fleet support personnel utilizing the PHALANX Performance Engineering Training

efforts for liquid propellant testing and guided munitions. Our support is further illustrated through the review for technical adequacy during the development of the EX46 Optical Sight. To ensure systems/equipments operational suitability, technical support is provided during Ships' Operational Testing, Builder's Trials, Post Shake-down Availability and for initial Combat Systems Ship Qualification Trials (CCSQTs). **While Navy Training Facilities are being established, NSWC, Louisville provides: initial interim training of Naval Forces** (i.e. the EX46 OS phased training developed and performed for the DDG-51, AEGIS Class Destroyers crews) and supports Chief of Naval Technical Training (CNTECHTRA) Naval Training Curriculum Development requirements with the **on-site Naval PHALANX Training Unit (NPTU).**

Evaluation Function: Currently, this capability supports the evaluation function by directing and monitoring the production contracting efforts for programs (i.e. MK 45 product improvements by FMC/ASD, Phalanx MK15 CIWS by Hughes (HMSC) and the EX46 Optical Sight by Kollmorgen).

Readiness Phase: This capability performs various engineering agent and management functions delegated by higher authority (i.e. NAVSEA/PEOs). While performing these various functions during the readiness phase this capability satisfies the inherently governmental roles to sponsor and appraise NGWS/equipments support efforts. Following are listed the primary functions performed with program specific examples:

Production Function: Production support is currently provided by NSWC, Louisville to Hughes for CIWS, to UNISYS for the MK160 GCS, to Kollmorgen for the EX46 OS and to FMC for the MK 45 Gun. Support for these efforts involves an **appraisal role in the acceptance and approval of production changes, modifications, acceptance testing, waivers, deviations, producibility reviews, etc..**

Operation Function: In performance of its in-service engineering functions, NSWC, Louisville provides logistics, configuration control and spares support to SPCC from early design phase through fleet introduction and operational use. This capability's lead in the Reliability Based Sparing initiative on the DDG-51 AEGIS Class Destroyer is an example of **advanced logistics planning** and program support. Whenever ships are reactivated, retired or decommissioned such as with the Battleships, this capability directs and establishes the process for these efforts. Engineering fleet support is provided when Direct Fleet Support activities request assistance to **solve technical problems which impact fleet readiness**. This capability also **provides industrial training** of field service, intermediate level maintenance and fleet support personnel utilizing the PHALANX Performance Engineering Training Systems and the Gun Systems Engineering/Test and Advanced

Training Facilities. These training facilities also support our **FMS customers** and provide an alternative training resource for **non-DoD customers** (i.e. Dept. of Trans, U.S. Coast Guard).

Maintenance Function: Three levels of maintenance support (depot, intermediate and organizational) are provided by this capability to **ensure operational readiness during the entire life cycle** of Naval Gun Weapons Systems. This capability is also responsible for the establishment and certification of depot and intermediate level maintenance capabilities and in providing and maintaining an industrial and engineering technology base. Other maintenance initiatives of this capability involve **technology transfer** efforts to the Department of Transportation (i.e. U.S. Coast Guard) and Foreign Military Sales (FMS) customers. Examples of this is our assisting the United Kingdom in the development of their own organic depot maintenance capability and a joint venture with Germany to develop selected Rolling Airframe Missile Guided Missile Launching System (RAM GMLS) depot maintenance capabilities. A related initiative in the area of **foreign weapons evaluation** is the 5"/54 Modular Gun System Foreign Comparative Test Program, under the sponsorship of NAVSEA 05R3. This program, developed by Blohm & Voss of Hamburg, Germany, has been implemented on the MEKO Class 200T Frigate.

Ultimately, our customers are the men and women serving their country aboard the Navy's Surface fleet who operate and maintain NGWS/equipments. Equally important customers are the **multiple sponsors (i.e. PMs, PEOs)** to whom we're directly accountable and who fund these programs which require this technical capability. The requirements for this capability **will continue to endure** as the Navy's mission transitions to that of Littoral Warfare. The currently **stable workload** has the potential to increase as new ships and weapons systems are introduced to the Fleet (i.e. introduction of the DDG-51 Class Destroyers and the RAM Weapon Systems).

The technically sophisticated NGWS/equipments require a professional and technical personnel staff with a broad mix of skills and knowledge in the fields of science, engineering, logistics, ordnance technicians and industrial specialists. NSWC, Louisville is considered by most to be the Navy's leading full spectrum life cycle engineering and systems maintenance support facility for technically sophisticated NGWS/equipments. With an experienced engineering and technical support staff which includes **recognized experts**, NSWC, Louisville is **recognized as the Navy's "expert" for this capability by both the public and private sectors**. Although much of the skill mix has been achieved through formal education or apprenticeships and masters programs, the application of these skills in a **hands-on environment** over the period of operation of the NSWC/CD facilities (50 years) represents a significant corporate memory which is the **repository of technical knowledge** for NGWS/equipments gained through experience throughout the entire life cycle process.

The significant characteristic of this capability's work force is in the integration of its knowledge/skills in a close working relationship provided throughout the life cycle. This provides the continuity inherently required in the support process of technically sophisticated NGWS/equipments.

This capability has a uniquely integrated, **fully operational, "state of the art"**, engineering and industrial facility (Louisville Site) which **provides the Navy, as well as other DoD, non-DoD and FMS customers**, with the only qualified and certified depot facility for Naval Gun Weapons Systems (**due to previous consolidations, closures and downsizing initiatives, NO OTHER SIMILAR FACILITY EXISTS**). This facility is a collocation of engineering and depot maintenance facilities which provides the Navy a unique full spectrum life cycle support **capability to respond to reconstitution, surge/mobilization and rapid response requirements** for Naval Gun Weapons Systems. This capability is a **national asset** recognized for its expertise as a leader both in and outside DoD. The Specialized Mechanical Devices, capability which is designated by the DoD Joint Logistics Center as one of the two original Flexible Computer Integrated Manufacturing (and Repair) (FCIM) Process Validation Enterprises for mechanical parts provides significant and unique support to this capability. The major elements of these facilities represent those assets which are permanent structures having unique functions in support of this capability and are **economically impractical to relocate**.

There is also a large compliment of special equipments and computers available to support this capability. The PHALANX CIWS depot alone, has fifty-three (significant/high value) system, subsystem and component test/special equipments. **This facility is considered to be fully capable of meeting any future projected surge or mobilization needs.**

The inherently governmental function (smart-buyer) performed by this capability represents the Navy's corporate memory for NGWS/equipments and is **impractical for the private sector to assume**. This capability has been acquired over most of the fifty years that the NSWC/CD facilities have been a provider of goods (military) and services (engineering). The customer base of this capability includes other branches of DoD, non-DoD, and FMS customers. For example, the FMS customer base for the PHALANX CIWS security assistance program currently supports Australia, Canada, Greece, Israel, Japan, Portugal, Saudi Arabia, Taiwan, Turkey and the United Kingdom with Brazil, Egypt, New Zealand, Spain, Thailand and Venezuela in the process of obtaining systems.

The full spectrum hands-on experience in both a sponsorship role and appraisal role in support of acquisition and readiness in the functional areas of exploration, assessment, development, evaluation, production, operation and maintenance provides a unique synergy for NGWS/equipments support.

Undoubtedly, this capability's most important resource is its people which cumulatively represents thousands of man-years of experience. The stability of it's work force provides the continuity necessary to perform the inherently governmental roles of sponsorship and appraisal required for life cycle support of NGWS/equipments. Whether developing, modernizing, upgrading, maintaining or producing major system prototypes or reactivating "Old Warriors" (Battleships) this capability has been able to maintain a core technological base to respond to any operational fleet requirement. **Operational readiness would be impacted if this capability were not maintained organically**.

This unique integration of engineering/industrial capability provides a full spectrum manufacturing, repair and systems overhaul capability for which no other source exists, for products where no interest exists in the private sector and for rapid response situations to fleet safety requirements.

Loss of this capability would result in an irreversible loss of the Navy's corporate memory (a DON imperative to maintain a repository of technical knowledge for critical mission essential Weapons Systems/equipments supported by this capability) and the loss of an inherently governmental role, that of being a smart buyer. Additionally, the Navy's ability to reconstitute resources to address future threats would be severely limited.

Development and fielding of Naval Gun Weapons Systems and COMNAVSEASYSCOM Program Management of Physical Security Equipment and Systems for protection of Nuclear Weapons and other "High Value" assets in support of the Weapons (Guns and Ammunition) Common Support Function.

The Advanced Gun Weapon System Technology and Naval Surface Fire Support Programs illustrates efforts which support: requirements definition and the establishment of operational objectives; the assignment, direction and oversight of both public and private efforts in the concepts definition, alternatives exploration and; risk management. Further illustration in support of this function, is the support of Project Reliance through membership on the Conventional Guns sub-panel of the Joint Directors of Laboratories (JDL), Conventional Air Surface Weaponry Panel, under the leadership of the Army's Research Armament Development and Engineering Center at the Picatinny Arsenal. In support of this Tri-Service effort we participate as members on this sub-panel as recognized experts of conventional guns while looking at the cooperative research efforts of conventional guns.

An interface exists with Defense Nuclear Agency (DNA) and Applied Research Laboratory (ARL), University of Texas, in that they typically conduct the basic research for Shipboard Physical Security System equipments and then transition final design, test, production and fielding of systems to NSWC, Louisville.

The relationship with other functions at NSWC, Louisville is very important. The experience in engineering products for shipboard weapons systems such as: Design practices, Logistics, Configuration Management, and Installation Practices have been directly incorporated into development of Security Hardware for Shipboard use.

The availability of facilities (machine shop, fabrication, plating shop, drafting, etc) in place to support NSWC, Louisville weapons systems overhaul efforts, also allows for rapid prototyping of new system's designs.

3.1 Location

3.1.1 Geographic/Climatological Features: Describe any geographic/climatological features in and around your activity that are relevant to each CSF. Indicate and justify those that are required versus those that just serve to enhance accomplishing the mission of the activity. For example, clear air at high altitude that increases quality of atmospheric, ground-based laser experiments in support of the weapons CSF. (BRAC Criteria I)

There are no special Geographic/Climatological features. Attributes of the location of this capability are an **affordable labor market** (prevailing labor rates lower than national average); **synergistic full spectrum** engineering and industrial facility; close proximity to major air, rail, river and interstate transportation routes; and readily available labor source from nearby colleges and universities (e.g. University of Louisville). The affordability attribute and location in a low cost of living area within a major metropolitan area, provides an environment necessary to sustain the **stability for maintaining a "smart buyer" capability** over the life cycle of a weapon system. Furthermore, this environment attracts and retains a highly technical, quality and stable workforce.

Due to previous consolidation efforts, NSWC, Louisville is the only remaining comprehensive depot/engineering facility with the capability to support the DoD Commodity Group of Sea Systems Subgroup Weapons Systems (Surface). In preservation of DON readiness, NSWC, Louisville maintains required critical and unique capabilities found nowhere else in the DoD and could only be replicated at a great cost.

One of the greatest benefits to NSWC, Louisville's location in the central midwest is that it provides a consolidated "full spectrum" engineering and industrial activity that **is capable of supporting the Atlantic, Pacific and Gulf Coast Activities**. This eliminates the need to replicate the Naval Gun Weapons Systems capability (i.e. an affordable one stop shop for our customers).

3.1.2 Licenses & permits: Describe and list the licenses or permits (e.g., environmental, safety, etc.) that your activity currently holds and justify why they are required to allow tests, experiments, or other special capabilities at your location for each CSF. For example, permit to store and use high explosives. (BRAC Criteria I)

There are no licenses or permits required. The Shipboard Physical Security offices are located in a required, secure "exclusion area". The facility is TEMPEST certified which allows classified information to be processed.

3.1.3 Environmental constraints: Describe and list the environmental or land use constraints present at your activity which limit or restrict your current scope for each CSF, i.e., would not allow increased "volume" or "spectrum" for the CSF. Example -- Volume: frequency of a type of experiment. Example -- Spectrum: Current permit to detonate high explosives will not allow detonation or storage of increased quantity of explosives without legal waiver (state law) or relocation of surrounding (non-govt) buildings. (BRAC Criteria II)

The Shipboard Physical Security Program has conducted a wide variety of tests over the past several years. There have been no environmental constraints on the tests and none are anticipated.

The Naval Gun Weapons Systems have no environmental constraints. Land use constraints exist which excludes live firing for large caliber guns. Outdoor radiation emissions requires coordination with local FAA authorities.

3.1.4 Special Support Infrastructure: List and describe the importance of any mission related special support infrastructure (e.g. utilities) present at your location for your activity. (BRAC Criteria I)

The major asset to the Shipboard Physical Security Program, is the availability at NSWC, Louisville of a full size replica of the interior of simulated shipboard spaces. The replica is complete with steel bulkheads, shipboard hatches and scuttles, magazine bulkhead lagging, lighting, shipboard type electrical power, and production or prototype versions of the physical security equipment being developed for shipboard use. This mockup allows new equipment to be thoroughly tested under realistic destructive threat scenarios to insure it will function as desired when actually placed aboard ship.

The Gun Systems Engineering/Testing and Advanced Training Facility provides capability to test prototypes and manufacture Engineering Development Models (EDMs). The capability to emulate/simulate shipboard conditions, resolve safety issues and correct design deficiencies is integral to the Naval Gun Weapons Systems full spectrum support facility.

3.1.5. Proximity to Mission-Related organizations: List and describe the importance and impact of not having nearby organizations which facilitate accomplishing or performing your mission -- e.g. operational units, FFRDCs, universities/colleges, other government organizations, and commercial activities. Restrict your response to the top five. Complete the following: (BRAC Criteria I)

The availability of facilities (fabrication, machine shop, plating shop, drafting, etc.) in place to support NSWC, Louisville Weapons Systems overhaul efforts, also allows for rapid prototyping of new security system designs. The Manufacturing Technology Transfer Center at NSWC, Louisville, supports the DoD initiative to enhance technological teaming between public and private sectors.

There is a strategic benefit to being centrally located between the Pacific and Atlantic fleets. Atlantic, Pacific and Gulf coasts are easily accessible. **This eliminates the need to replicate support services.**

COMMON SUPPORT FUNCTIONS	NAME	TYPE OF ORGANIZATION	DISTANCE	WORKYEARS PERFORMED BY YOUR ACTIVITY	WORK-YEARS FUNDED BY YOUR ACTIVITY
WEAPONS (GUN AND AMMO)	NSWC, CRANE	DON	90 MILES	0	.2
	NAWC, INDIANAPOLIS	DON	110 MILES	0	0
	FORT KNOX	U.S. ARMY	40 MILES	0	0
	UNIVERSITIES	VARIOUS	5 MILES	0	0

As an integral part of the NSWC, Crane Division, the Crane site provides the capability for EMI, Environmental testing of equipment and components. NAWC, Indianapolis provides the capability for environmental testing and prototype manufacturing. Fort Knox provides nearby capability for live firing of large caliber guns. There are advantages to NSWC, Louisville's location in a metropolitan area where a broad variety of commercial, transportation, recreational, and educational services are readily available. Local Universities/Colleges provide an excellent source of technical personnel.

3.2 Personnel:

3.2.1 Total Personnel: What is the total number of government (military and civilian), on-site federally funded research and development center (FFRDC), and on-site system engineering technical assistance (SETA) personnel engaged in science and technology (S&T), engineering development and in-service engineering activities as of end FY93? For individuals that predominantly work in CSFs, involved in more than one CSF, account for those individuals in the CSF that represents the preponderance of their effort. (BRAC Criteria I)

Types of personnel	Number of Personnel			
	Government		On-Site FFRDC	On-Site SETA
	Civilian	Military		
Technical	27	0	0	0
Management (Supv)	3	0	0	0
Other	9	0	0	0

3.2.2 Education: What is the number of government personnel actively engaged in S&T, engineering development and in-service engineering activities by highest degree and type of position? Provide the data in the following table: (BRAC Criteria I)

Type of Degree/ Diploma	Number of Government Personnel by Type of Position		
	Technical	Management (Supv)	Other
High School or Less	2	0	8
Associates	3	0	0
Bachelor	17	3	0
Masters	6	0	0
Doctorate (include Med/Vet/etc.)	0	0	0

3.2.3 Experience: What is the experience level of government personnel? Fill in the number of government personnel in the appropriate boxes of the following table. (BRAC Criteria I)

Type of Position	Years of Government and/or Military Service				
	Less than 3 years	3-10 years	11-15 years	16-20 years	More than 20 years
Technical	5	11	7	3	2
Management (Supv)	0	0	0	1	2
Total	5	11	7	4	4

3.2.4 Accomplishments During FY91-93: For government personnel answer the following questions.

3.2.4.1 How many patents were awarded and patent disclosures (only count disclosures with issued disclosure numbers) were made? (BRAC Criteria I)

CSF	Disclosures	Awarded	Patent Titles (List)
	0	0	
	0	0	
Total	0	0	

3.2.4.2 How many papers were published in peer reviewed journals? (BRAC Criteria I)

CSF	Number Published	Paper Titles (List)
Weapons (Guns and Ammunition)	3	Virtual Prototyping Using Knowledge-Based Modeling & Simulation Techniques Range Extension Near Term * Advanced Gun Weapons Systems Technology Program Overview *
TOTAL	3	

* ADPA Guns and Ammo Technical Conference Minutes

LINE MISSING, SEE PREVIOUS PAGE (ORIGINAL VERSION)

uisclosures with issued disclosure numbers) were made? (BRAC Criteria I)

CSF	Disclosures	Awarded	Patent Titles (List)
	0	0	
	0	0	
Total	0	0	

3.2.4.2 How many papers were published in peer reviewed journals? (BRAC Criteria I)

R

CSF	Number Published	Paper Titles (List)
Weapons (Guns and Ammunition)	1	"Virtual Prototyping Using Knowledge-Based Modeling & Simulation Techniques." American Society of Naval Engineers (ASNE). May 1993.
TOTAL	1	

3.3 Workload

3.3.1 FY93 Workload

3.3.1.1 Work Year and Lifecycle: Identify the number of actual workyears executed for each applicable CSF in FY93 for each of the following: government civilian; military; on-site FFRDCs; and on-site SETAs. (BRAC Criteria I)

"LAB"	Fiscal Year 1993 Actual			
	Civilian	Military	FFRDC	SETA
Science & Technology	11.1	0	0	0
Engineering Development	25.9	0	0	0
In-Service Engineering	1.8	0	0	0

3.3.1.2 Engineering Development By ACAT: For each Common Support Function (e.g. airborne C4I) at each activity engaged in engineering development, provide:

- **For each ACAT IC, ID, and II program (as defined in DODI 5000.2):**
- **The name of the program**
- **A brief program description**
- **For each ACAT III and IV programs:**
- **The number of such programs**
- **A list of program names**
- **For each program not an ACAT I, II, III, IV:**
- **The number of such programs**
- **A list of program names**
- **For the purpose of this question, any program between Milestone I and IV and containing demonstration and validation (Dem/Val 6.4)/Engineering and Manufacturing Development (EMD 6.5) funds in the FY95 PBS is considered to be engaged in engineering development (BRAC Criteria I).**

Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC	(Name)			(Description)
ACAT ID	(Name)			(Description)
ACAT II	(Name)			(Description)
ACAT III/IV	063228D/S1769	13.8	$1,541K	Shipboard Physical Security
	063228D/S0812-SL	1.0	$80K	Shipboard Nuclear Weapons Security
	0603795/S2093	11.1	$1,849K	Naval Surface Fire Support (NSFS)
	0603795/S2156	5.9	$759K	Naval Surface Fire Support (NSFS)
	0603795/S1684	5.2	$750K	Stable Weapon Systems Platform
Other	(Number)			(List)

3.3.1.3 In-Service Engineering: For each Common Support Function at each activity engaged in in-service engineering, list the in-service engineering efforts, the FY93 funds (from all sources) obligated for these efforts, the FY93 workyears for these efforts, and the weapon system(s) supported by these efforts. In-service engineering consists of all engineering support of fielded and/or out of production systems and includes efforts to improve cost, throughput, and schedule to support customer requirements as well as mods and upgrades for reliability, maintainability, and performance enhancements. (BRAC Criteria I)

Common Support Functions	In-Service Engineering Efforts (List)	FY93 Actual		Weapon System(s) Supported
		Funds Received (Obligation Authority)	Workyears	
Weapons (Guns and Ammunition)	System Engineering	0.13	1.8	PHALANX MK 15 Close-In Weapon System

3.3.2 Projected Funding

3.3.2.1 Direct Funding: For each applicable CSF, identify direct mission funding by appropriation from FY94 to FY97. Use FY95 PBS for FY95-FY97. (BRAC Criteria I)

CSF	FY94	FY95	FY96	FY97
	0	0	0	0

3.3.2.2 Other Obligation Authority: For each applicable CSF, identify reimbursable and direct-cite funding (other obligation authority expected) from FY94 to FY97. Funding allocation must be traceable to FY95 PBS. (BRAC Criteria I)

CSF	FY94	FY95	FY96	FY97
Weapons (Guns and Ammunition)	$9.4M	$12.2M	$11.8M	$11.8M

3.4 Facilities and Equipment

3.4.1 Major Equipment and Facilities: Describe major facilities and equipment necessary to support each Common Support Function (include SCIFs). If the facilities and equipment are shared with other functions, identify those functions and the percentage of total time used by each of the functions. Provide labeled photographs that picture the breadth and scope of the equipment and facilities described. If it is unique to DOD, to the Federal Government, or to the US, describe why it is unique. Insert the replacement cost. For this exercise, Replacement cost = (Initial cost + capital investment) multiplied by the inflation factor for the original year of construction. (BRAC Criteria II)

Common Support Function	Major Facility or Equipment Description	Unique To			Replacement Cost ($K)
		DOD	Federal Gov't	U. S.	
Weapons (Guns and Ammunition)	Shipboard Physical Security Mockups *			X	1,018
	Gun Systems Engineering/ Testing and Advanced Training Facility *			X	9,649

* See Attachments A. and B. for explanation of facilities/equipment

The facilities shown above support RDT&E functions and there is no interconnectivity between the Weapons (Guns and Ammunition) CSF and other CSFs. R

The two facilities listed above have no interconnectivity. However, these facilities are interconnected with other facilities at NSWC, Louisville for the workload identified in Table 2.1 and are required to support our Mission as stated in paragraph 3.0 above. R

These facilities are used to support RDT&E efforts as well as other life cycle functions for the Major Equipment listed. There is no RDT&E unique Space Capacity within these facilities. All space is shared with other life cycle support functions: R

- Total workyears performed in these facilities : 140.6
- Percentage of time facilities used to support RDT&E efforts : 12.4%
- Percentage of time facilities used to support other life cycle functions : 87.6%

The balance of 21.3 RDT&E workyears are performed within other facilities at NSWC, Louisville.

3.3.2.2 Other Obligation Authority: For each applicable CSF, identify reimbursable and direct-cite funding (other obligation authority expected) from FY94 to FY97. Funding allocation must be traceable to FY95 PBS. (BRAC Criteria I)

CSF	FY94	FY95	FY96	FY97
Weapons (Guns and Ammunition)	$9.4M	$12.2M	$11.8M	$11.8M

3.4 Facilities and Equipment

3.4.1 Major Equipment and Facilities: Describe major facilities and equipment necessary to support each Common Support Function (include SCIFs). If the facilities and equipment are shared with other functions, identify those functions and the percentage of total time used by each of the functions. Provide labeled photographs that picture the breadth and scope of the equipment and facilities described. If it is unique to DOD, to the Federal Government, or to the US, describe why it is unique. Insert the replacement cost. For this exercise, Replacement cost = (Initial cost + capital investment) multiplied by the inflation factor for the original year of construction. (BRAC Criteria II)

Common Support Function	Major Facility or Equipment Description	Unique To			Replacement Cost ($K)
		DOD	Federal Gov't	U. S.	
Weapons (Guns and Ammunition)	Shipboard Physical Security Mockups *			X	1,018
	Gun Systems Engineering/Testing and Advanced Training Facility *			X	9,649

* See Attachments A. and B. for explanation of facilities/equipment

3.5 Expansion Potential

3.5.1 Laboratory Facilities: Use facilities records as of fourth-quarter FY93 in answering the following (in sq ft) for each CSF: (BRAC Criteria II)

Common Support Function	Facility or Equipment Description	Type of Space*	Space Capacity (KSF)		
			Current	Used	Excess
Weapons (Guns and Ammunition)	Shipboard Physical Security Mockups	Technical Administrative	2,412 5,568	2,412 5,568	0 0
	Gun Systems Engineering/ Testing and Advanced Training Facility	Technical	7,330	7,330	0

* Administrative, Technical, Storage, Utility

3.5.1.1 Describe the capacity of your activity to absorb additional similar workyears categorized in the same common support function with minor facility modification. If major modification is required, describe to what extent the facilities would have to be modified. (Use FY97 workyears as your requirement) (BRAC Criteria III)

Existing facilities are sufficient to support FY97 projected workload and additional workload.

3.5.1.2 If there is capacity to absorb additional workyears, how many additional workyears can be supported? (BRAC Criteria III)

Twenty additional workyears could be supported by current operations and existing facilities.

3.5.1.3 For 3.5.1.1 and 3.5.1.2 (above) describe the impact of military construction programs or other alteration projects programmed in the FY95 PBS. (BRAC Criteria II)

There are no MILCON projects programmed.

3.5.2 Land Use: Provide number of buildable acres for additional laboratory/administrative support construction at your installation. (BRAC Criteria II)

A total of 63.615 buildable acres is available for expansion at NSWC, Louisville. The site is compact (i.e. 142.44 total acres) with existing multi-feeds of each utility and minimal distance from any undeveloped site to roads, utilities, etc. These existing infrastructure components will significantly lower the cost for site development, thus lowering the overall cost for any new construction.

3.5.3 Utilities: Provide an estimate of your installation's capability to expand or procure additional utility services (electric, gas, water). Estimates should be provided in appropriate units -- e.g. KWH of electricity. (BRAC Criteria II)

UTILITY/ UNITS PROVIDER	NORMAL STEADY STATE	PEAK LOAD	EXISTING CAPACITY FROM DEMAND	AVAILABLE CAPACITY FROM PROVIDER
ELECTRIC: (KWH)	7,200	9,246.6	22,500	100,000
NATURAL GAS: (CFH)	58.622	151,200	543,560	1,000,000
WATER (GPD)	486,000	972,000	2,160,000	2,160,000

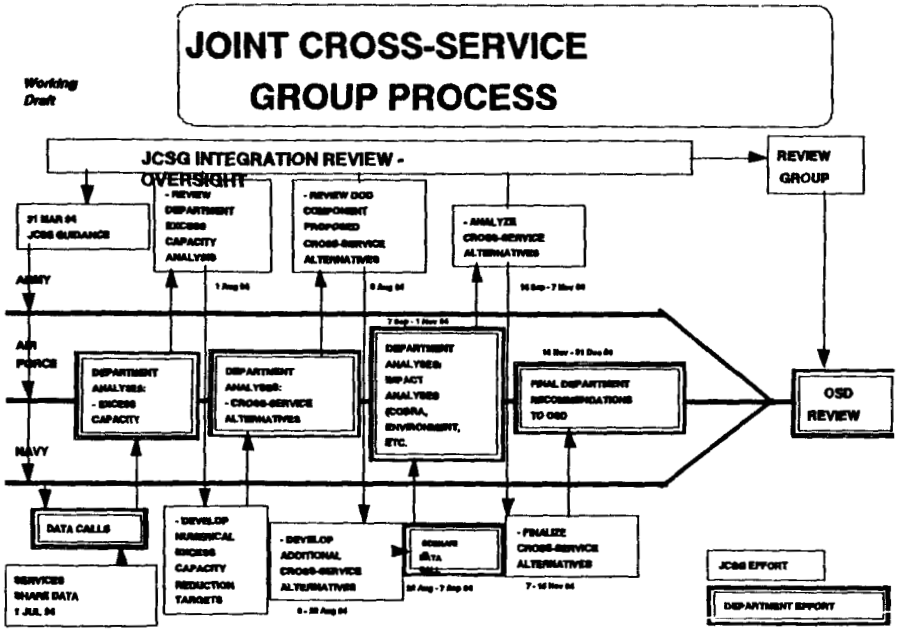
PROVIDER
ELECTRIC - LOUISVILLE GAS AND ELECTRIC
NATURAL GAS - LOUISVILLE GAS AND ELECTRIC
WATER - LOUISVILLE WATER COMPANY

UNITS:
KWH - kilowatts per hour (Continuous Demand)
CFH - cubic feet per hour (Gas assay - 1025 BTU per cubic foot)
GPD - gallons per day (@ 80 psig)

SECTION IV: APPENDICES

A. Macro Process/Schedule
B. List of Activities
C. Common Support Functions

APPENDIX A


JOINT CROSS-SERVICE
GROUP PROCESS
Working Draft
JCSG INTEGRATION REVIEW - OVERSIGHT
REVIEW GROUP
31 MAR 94 JCSG GUIDANCE
- REVIEW DEPARTMENT EXCESS CAPACITY ANALYSIS
- REVIEW DOD COMPONENT PROPOSED CROSS-SERVICE ALTERNATIVES
- ANALYZE CROSS-SERVICE ALTERNATIVES
ARMY
AIR FORCE
NAVY
DEPARTMENT ANALYSES: - EXCESS CAPACITY
DEPARTMENT ANALYSES: - CROSS-SERVICE ALTERNATIVES
DEPARTMENT ANALYSES: IMPACT ANALYSES (COBRA, ENVIRONMENT, ETC.
FINAL DEPARTMENT RECOMMENDATIONS TO OSD
OSD REVIEW
DATA CALLS
SERVICES SHARE DATA 1 JUL 94
- DEVELOP NUMERICAL EXCESS CAPACITY REDUCTION TARGETS
- DEVELOP ADDITIONAL CROSS-SERVICE ALTERNATIVES
- FINALIZE CROSS-SERVICE ALTERNATIVES
JCSG EFFORT
DEPARTMENT EFFORT

APPENDIX B

LIST OF ACTIVITIES

AIR FORCE

1. Armstrong Lab, Brooks AFB
2. Armstrong Lab, Tyndall AFB
3. Armstrong Lab, Wright-Patterson AFB
4. Armstrong Lab, Williams AFB
5. Human Systems Center, Brooks AFB
6. Wright Lab, Wright-Patterson AFB
7. Wright Lab, Eglin AFB
8. Aeronautical Systems Center, Wright-Patterson AFB
9. Aeronautical Systems Center, Eglin AFB
10. Oklahoma City Air Logistics Center, Tinker AFB (In-service engineering)
11. Ogden Air Logistics Center, Hill AFB (In-service engineering)
12. San Antonio Air Logistics Center, Kelly AFB (In-service engineering)
13. Sacramento Air Logistics Center, McClellan AFB (In-service engineering)
14. Warner-Robins Air Logistics Center, Robins AFB (In-service engineering)
15. Phillips Lab, Kirtland AFB
16. Phillips Lab, Hanscom AFB
17. Phillips Lab, Edwards AFB
18. Space & Missile Center, Los Angeles AFB
19. Space & Missile Center, Norton AFB
20. Sacramento Air Logistics Center, Peterson AFB
21. Rome Lab, Griffiss AFB
22. Rome Lab, Hanscom AFB
23. Electronic Systems Center, Hanscom AFB
24. Sacramento Air Logistics Center, Peterson AFB (In-service engineering)

ARMY

1. Army Research Lab (ARL), Adelphi, MD
2. ARL, Aberdeen Proving Grounds (APG), MD
3. ARL, White Sands Missile Range, NM
4. ARL, NASA Langley, VA
5. ARL, NASA Lewis, OH
6. Natick Research, Development and Engineering Center, Natick, MA
7. Aviation Research, Development and Engineering Center, St Louis, MO
8. Aviation Troop Command, Aeroflight Dynamics Directorate, Moffitt Field, CA

9. Aviation Troop Command, Aviation Applied Technology Directorate, Fort Eustis, VA
10. Edgewood Research, Development and Engineering Center, Aberdeen Proving Ground, MD
11. Communications Electronics Command Research, Development and Engineering Center, Ft Mammoth, NJ
12. Communication Electronics Command Research, Development and Engineering Center - Night Vision EO Directorate, Ft Belvoir, VA
13. Missile Research, Development and Engineering Center, Redstone Arsenal, AL
14. Armaments Research, Development and Engineering Center, Picatinny Arsenal, NJ
15. Armaments Research, Development and Engineering Center, Benet Labs, Watervliet Arsenal, NY
16. Tank-Automotive Command Research, Development and Engineering Center, Warren, MI
17. USA Research Institute of Infectious Diseases, Ft Detrick, MD
18. Walter Reed Army Institute of Research, Washington D.C.
19. USA Institute of Surgical Research, Ft Sam Houston, TX
20. USA Aeromedical Research Lab, Ft Rucker, AL
21. Medical Research Institute of Chemical Defense Aberdeen Proving Grounds, MD
22. USA Research Institute of Environmental Medicine, Natick, MA
23. Construction Engineering Research Laboratory, Champaign, IL
24. Cold Regions Research and Engineering Lab, Hanover, NH
25. Topographic Engineering Center, Alexandria, VA
26. Waterways Experiment Station, Vicksburg, MS
27. USA Research Institute for Behavioral & Social Sciences, Alexandria, VA
28. Simulation, Training and Instrumentation Command (STRICOM), Orlando, FL

NAVY

1. Naval Air Warfare Center, Weapons Division, China Lake
2. Naval Air Warfare Center, Weapons Division, Point Mugu
3. Naval Air Warfare Center, Aircraft Division, Patuxent River
4. Naval Air Warfare Center, Aircraft Division, Indianapolis
5. Naval Air Warfare Center, Aircraft Division, Lakehurst
6. Naval Research Lab, Washington D.C.
7. Naval Research Lab Detachment, Bay St Louis
8. Naval Surface Warfare Center, Carderock Division, Bethesda
9. Naval Surface Warfare Center, Carderock Detachment, Annapolis
10. Naval Surface Warfare Center, Crane Division
11. Naval Surface Warfare Center, Crane Detachment, Louisville
12. Naval Surface Warfare Center, Dahlgren Division
13. Naval Surface Warfare Center, Dahlgren Detachment, Panama City

14. Naval Surface Warfare Center, Indian Head Division
15. Naval Surface Warfare Center, Port Hueneme Division
16. Naval Command, Control, and Ocean Surveillance Center, RDT&E Division, San Diego
17. Naval Command, Control, and Ocean Surveillance Center, In-Service Engineering, West Coast Division, San Diego
18. Naval Command, Control, and Ocean Surveillance Center, In-Service Engineering Division, Charleston
19. Naval Aerospace Medical Research Center, Pensacola
20. Naval Biodynamics Lab, New Orleans
21. Naval Dental Research Lab, Great Lakes
22. Naval Health Research Center, San Diego
23. Naval Medical Research Institute, Bethesda
24. Naval Undersea Warfare Center, Keyport Division, WA
25. Naval Surface Warfare Center, Carderock, Philadelphia Detachment
26. Naval Undersea Warfare Center, Newport, RI
27. Naval Undersea Warfare Center (Newport), New London, CT
28. Naval Personnel Research and Development Center, San Diego, CA

DEPARTMENT OF DEFENSE

1. Armed Forces Radiobiology Research Institute (AFRRI), Bethesda, MD

APPENDIX C

COMMON SUPPORT FUNCTIONS (DEFINITIONS LISTED FOLLOWING PAGES)

Product Functions

1. Air Vehicles
   - Fixed
     - -- Structure
     - -- Propulsion
     - -- Avionics
     - -- Flight Subsystems
   - Rotary
     - -- Structure
     - -- Propulsion
     - -- Avionics
     - -- Flight Subsystems

2. Weapons
   - ICBMs/SLBMs
   - Conventional Missiles/Rockets
   - Cruise Missiles
   - Guided Projectiles
   - Bombs
   - Guns and Ammunition
   - Directed Energy
   - Chemical/Biological

3. Space Systems
   - Launch Vehicles
   - Satellites
   - Ground Control Systems

4. C4I Systems
   - Airborne C4I
   - Fixed Ground-Based C4I
   - Ground Mobile C4I

Pervasive Functions

1. Electronic Devices
2. Environmental Sciences
3. Infectious Diseases
4. Human Systems
5. Manpower and Personnel
6. Training Systems
7. Environmental Quality
8. Advanced Materials

DEFINITIONS

COMMON SUPPORT FUNCTIONS

Product Functions

1. Air Vehicles. Air vehicles are broken out into common support functions for fixed wing and rotary wing. Includes but not limited to all science and technology, demonstration and validation, engineering development, and production activities which support employment and in-service engineering of air vehicles. Included are all air vehicles including their application as UAV's and targets.

• Structures. Includes but not limited to all air vehicles structure technology, engineering and production efforts. Include technology and engineering practices which advance structural design and analysis; advanced structural concepts and fabrication techniques; and structural integrity.

• Propulsion. Includes but not limited to all technology, engineering and production efforts associated with air vehicle propulsion such as turbine engine, rotorcraft power drive, and hypersonic propulsion components. Such components include compressors, inlets and nozzles, turbines, mechanical systems and control, gears, bearings, shafts, and clutches. In addition, include associated subsystems activities such as turborocket, turboramjet and rotorcraft transmissions; and supporting technical and engineering disciplines.

• Avionics. Includes but not limited to all technology, engineering and production efforts associated with the air platform's integrated avionics system. The avionics suite includes but is not limited to weapon delivery systems, electronic warfare, navigation, communications, radar, electro-optic sensors, signal/data processing and associated software system and support. Includes efforts associated with developing the integrated avionics system (i.e. optimizing functional partitioning, distribution and integration of avionics/related functions).

• Flight Subsystems. Includes but not limited to all technology, engineering and production efforts for air vehicle support systems such as landing gear; transparent crew enclosures; egress systems; mechanical equipment integrity; electrical component integrity; subsystem integration; and aircraft power, pressurization, and temperature control systems.

2. Weapons. Includes but not limited to all science and technology, demonstration and validation, engineering development, and production activities which support employment and in-service engineering of ICBMs/SLBMs, conventional missiles and rockets, cruise missiles, guided projectiles, bombs, guns and ammunition, directed energy and

chemical/biological munitions. Include with each weapon as appropriate, all related technology, engineering and production activities such as fusing/safe and arm, missile propulsion, warheads and explosives, and guidance and control.

3. **Space**. Includes but not limited to all science and technology, demonstration and validation, engineering development, and production activities which support employment and in-service engineering of launch vehicles, satellites and associated ground control systems (satellite control only; ground systems for telemetry of data included in C4I). Include under satellites, all technology, engineering and production activities associated with space communications and space-based surveillance (and associated sensors) and space-based C4I.

4. **C4I**. Includes but not limited to all science and technology, demonstration and validation, engineering development, and production activities which support employment and in-service engineering of airborne, fixed ground-based and mobile ground based C4I systems. Include all technology, engineering and production activities associated with communications networks, radios and links, distributed information systems, data fusion, decision aids, and associated computer architectures.

Pervasive Functions (6.1, 6.2, and 6.3)

1. **Electronic Devices.** Includes but not limited to all science and technology activities supporting development of semiconductor and superconductor materials for optoelectronic, acoustic and microwave devices. Include all associated electronic materials/device fabrication and processing.

2. **Environmental Sciences.** Includes but not limited to all science and technology activities to improve measurement, characterization and modeling of the earth atmosphere and space environment. Examples include global prediction systems, space effects, and celestial backgrounds/astronomical reference sources.

3. **Infectious Diseases.** Includes but not limited to all science and technology activities which preserve manpower and performance by the prevention and treatment of militarily important infectious diseases that occur naturally worldwide.

4. **Human Systems.** Includes but not limited to all science and technology activities to enable, protect, sustain and enhance human effectiveness in DOD operations. The focus of this pervasive, multi-disciplinary area is the human and therefore impacts all DOD systems and operations. This area includes: (1) human performance definition, assessment, and aiding; (2) physiologic bioeffects of toxic hazards, ionizing and non-ionizing radiation, biodynamic (bio-mechanical) stress, and extreme environments; (3) military operational

medicine; and (4) generic, human-centered design standards/methodologies for crew station subsystems, information management and display, and life support.

5. Manpower and Personnel. Includes but not limited to all science and technology activities which support four broad areas: (1) selection and classification of DOD personnel (including pilots); (2) identification of operational tasks performed and requirements for skills, knowledge, and aptitudes; (3) matching the right people with the jobs they are best suited for according to the needs of DOD, (4) and developing techniques for measuring and enhancing the productivity of the operational force.

6. Training Systems. Includes but not limited to all science and technology which support training of personnel, including training strategies, devices and simulators, and computer aided intelligent tutoring systems.

7. Environmental Quality. Includes but not limited to all science and technology activities which support the development of technologies to reduce the environmental costs of DOD operations while ensuring mission accomplishment is not jeopardized by adverse environmental impacts. Specifically, this area encompasses technologies to: (1) identify and cleanup sites contaminated with hazardous materials as a result of DOD operations (cleanup); (2) ensure DOD compliance with current and anticipated local, national, and international environmental laws and treaties (compliance); (3) minimize DOD use of hazardous materials and reduce DOD hazardous waste generation (pollution prevention); and (4) provide for protection of natural resources under DOD stewardship (conservation).

8. Advanced Materials. Includes but not limited to all science and technology activities related to structural, high temperature, electromagnetic protection, electronic, magnetic, optical, and biomolecular materials. Note: excludes materials areas which were included in DDR&E decision of 18 Mar 94 related to the Army's Materials Research Facility at Aberdeen Proving Ground and the Navy's Materials Facility at Carderock.

ATTACHMENT A. TO DATA CALL 12, QUESTION 3.4.1

Technical Center Site	NSWC, CRANE DIV. LOUISVILLE SITE
Facility/Equipment Nomenclature or Title	Shipboard Physical Security Mock-ups

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

U.S. Navy ships and ashore sites are vulnerable to attack by militant groups, terrorists, criminals, criminal dissidents, and others. Threats are continuous in nature and affect U.S. Navy ships while dockside, at anchorage, in both foreign and domestic ports and; ashore sites in CONUS and outside CONUS. The threat is validated by the System Threat Analysis Report (STAR 02-88). The shortcomings of current systems, and approaches to resolving these shortcomings, are described in documents such as the Shipboard Physical Security Operational Requirements Document (ORD 329-09N/B-93). The value of a full spectrum support program to prevent shipboard losses, and compromise of weapons, resulted in the designation of Naval Ordnance Station Louisville as a Center Of Excellance (COE) for Shipboard Physical Security in 1987. At that time the Station's formal Mission Statement was also changed in the NAVSEASYSCOM Instruction to include this role.

The Shipboard Physical Security Program Management and Execution Capability is unique because it is the only site in DON where unique shipboard facilities, technical expertise, program management capabilities, physical security knowledge and shipboard test and evaluation experience come together in a single location. As the recognized expert for shipboard physical security research and development, acquisition and life cycle support, NSWC, Louisville has developed an organic support capability as well as a "smart buyer" capability in evaluating private industry products and other Service's security products. As the DON's lead activity for Shipboard Physical Security, as designated by CNO, N09N1, this Technical Capability assists CNO in establishment of Navy policy for physical security and validates technical requirements through the CNO (N86, N87, and N88) platform sponsors. An example is the Operational Requirements Document approved in March, 1993, which was prepared by NSWC, Louisville, and staffed through the CNO sponsors.

The current and future missions of this Technical Capability are to execute the COMNAVSEASYSCOM Program Management functions for the Shipboard Nuclear Weapons Security (SNWS) Program and the Shipboard Physical Security (SPS) Program. Both programs are designated Priority 02 (FAD II, Designator A) and program priorities are established through the Program Manager at NSWC, Louisville.

The SNWS program is in the Production/Deployment phase and includes the acquisition and installation of the MK 4 Protected Voice Portable Communications System (PVPCS), the MK 6 Shipboard Internal Locking System Module (SMILS) and the MK 1 Magazine Security System (MSS). These equipments are procured through the NSWC, Louisville Contracting Office and installed by NSWC, Louisville Alteration Installation Teams (AIT). This TC also includes Integrated Logistics Support Management and Life Cycle Management. NSWC, Louisville coordinates with the CNO, N09N1, resource sponsor for the acquisition of equipments and with the CNO Platform Sponsors (N865, N866, N87 and N88) for Fleet Modernization

Program (FMP) funds and life cycle support funds.

The SPS program is in the RDT&E phase and work is performed directly for CNO, N09N1, to develop, acquire and adapt physical security equipments for shipboard use. As Technical Direction Agent (TDA), NSWC, Louisville directs the efforts of two other participating field Activities (NISE EAST, St. Inigoes, Md. and NSWC Dahlgren/CSS Panama City, FL.) in the acquisition, test, evaluation and fleet introduction of various shipboard physical security equipments. The program includes on-board sensors such as Security Television System (STS), Shipboard Access Control System (SACS), Infrared Motion Detectors (IMD), Balanced Magnetic Switches (BMS), Security Force Equipment (SFE) and a Central Alarm Station (CAS) with interfaces to other existing security equipments. Off-board sensors consist of Radars, Swimmer Detection Sonar (SDS) and Hull Lighting improvements.

NSWC, Louisville performs the role of COMNAVSEASYSCOM Program Manager for the SNWS and SPS equipments. The recognized expertise of personnel performing the Technical Direction Agent (TDA) and Acquisition Engineering Agent (AEA) roles provide a "smart buyer" capability for shipboard and ashore equipments and a developmental, test and evaluation capability for all shipboard physical security equipments including Technical Evaluation (TECHEVAL) and support to Operational Evaluations (OPEVALs). The roles of Design Agent (DA), In-Service Engineering Agent (ISEA) and Integrated Logistics Support Manager (ILSM) provide the capabilities for Transition to Production, Fleet support and Life Cycle support for systems/equipments in the SNWS, SPS and ashore physical security programs.

The MK 4 PVPCS and MK 1 MSS are designated as "K" ALT Ship Alterations. NSWC, Louisville is assigned the responsibility of Alteration Installation Team leader for these equipments, attends fleet scheduling conferences and provides input to schedule availability with the appropriate Type Commander and executes the installation by providing on-site support. Follow-on fleet support is provided by the same Engineering Technicians. Ordnance Alterations (ORDALTS) and Machinery Alterations (MACHALTS) are also developed by the same engineering and technical personnel and are "proofed" in the Fleet by the engineers and field service engineering technicians. This provides a synergism unattainable without a full spectrum support activity. A unique shipboard mock-up is located at NSWC, Crane, Louisville site, where all equipments/systems are installed, maintained, evaluated and tested prior to shipboard installation. Fleet training is also provided on the equipments prior to TECHEVAL/OPEVAL.

These functions provide a system level capability for shipboard physical security equipments/systems and provides the DON with a single location for resolution of fleet technical requirements and a reliable, responsive, enduring capability for fleet support.

The essential skills, knowledges and technical expertise required to accomplish all tasks within this Technical Capability are available at NSWC, Louisville, and include: an established core of engineers (electronic, mechanical, naval architect) to perform design tasks, research, development, test, evaluation and software development; technical specialists (logistics management specialists, equipment specialists, physical security specialists, program analysts, computer specialists and engineering technicians) to support a "smart buyer" capability, conduct test and evaluation, perform fleet and ashore installations and provide equipment/system life cycle support and; administrative personnel. This team includes a core of 64 engineering and technical support personnel and relies on other NSWC, Louisville specialized personnel for the remaining direct work-years. The average experience for technical personnel supporting this Technical Capability is 12 years.

Extensive use is made of the College co-operative internship program to acquire new engineers and training is provided through various sources to provide them with the necessary skills and knowledges in shipboard equipment/systems and physical security requirements. Electronics engineers specializing in Radio Frequency (RF) technology are one example of the skill mix required for this Technical Capability. Inherently Governmental roles include research, development and test of "off-the-shelf"/NDI hardware and development of unique items, transition-to-production, classified software development, fleet introduction and life cycle logistics support. The RDT&E effort requires NSWC, Louisville to provide the technical direction and funds allocation to other participating field Activities. Funds are provided directly to the other Activities, via the NAVSEASYSCOM, based on annual Business Plans provided by the NSWC, Louisville Program Manager. Core personnel allocate these resources based on overall program priorities.

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

The above mentioned assets would be considered moveable, as defined by paragraph 6, page 12.

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

The core personnel and unique assets supporting this Technical Capability reside at NSWC Crane Div., Louisville site. A 7,980 sq. ft. building was constructed in two phases, in 1986 and 1990, using program funds. The building is a "secure area", TEMPEST certified for processing classified data, and utilizes 5,568 sq. ft. for offices for 45 personnel. The building contains an internal, secure, Local Area Network (LAN) and an independent interface to the NSWC, Crane Div. LAN.

Unique assets include a 1,572 sq. ft. mock-up of functional shipboard equipments. The mock-up is constructed of steel, with shipboard doors, hatches, scuttles, J-doors, lagging, lighting and ship's power to simulate a ship's magazine and surrounding spaces. A production version of the MK 4 PVPCS, MK 6 SMILS and MK 1 MSS are installed in and around the mock-up for developmental testing, evaluation and fleet training. These equipments are also used by the engineers and technicians to simulate and evaluate fleet problems, develop ORDALTS, SHIPALTS, MACHALTS, and evaluate interfaces to new sensors. Comprehensive vulnerability scenario testing is conducted and surreptitious penetration analysis is performed to evaluate equipment effectiveness for a wide range of threats. This mock-up was also used for fleet training prior to introduction of these equipments into the fleet.

An additional 840 sq. ft. mock-up was constructed for the RDT&E program, in 1992, which utilizes steel bulkheads, doors and hatches to simulate a ship's quarterdeck and Damage Control Central (DCC) spaces for the installation, test and evaluation of prototype equipment. A functional IC/SFZ switchboard, and components, are installed in this mock-up to test security equipment interfaces. A Security Television System, Shipboard Access Control System, Radar and other security devices are installed and tested in this mock-up.

Prototype manufacturing capabilities include a soldering station, an ESD station and Printed Wiring Assembly (PWA) workstations to accommodate circuit board design and simulation for development of shipboard physical security equipments.

Classified software development stations are installed in the mock-up to facilitate internal software programming. The building is TEMPEST certified for development of SECRET software and SECRET storage facilities are available for hardware and software. Software support capabilities include extensive off-the-shelf software analysis, evaluation of software distribution techniques and realtime in-circuit analysis of operational software.

Mock-up #1 equipment:

Original construction (material)	$35,000.00
Original construction (labor)	$57,600.00
Mk 1 MSS	$200,000.00
Mk 4 PVPCS	$90,000.00
SMILS & Misc. test equipment	$40,000.00
TOTAL (Mock-up #1)	$422,600.00

Mock-up #2 equipment:

Original construction (material)	$8000.00
Original construction (labor)	$19,200.00
SPS Equipment	$66,050.00
Test Equipment	$43,618.00
proto-type equipment	$28,483.00
proto-type software	$25,799.00
TOTAL (Mock-up #2)	$191,150.00

Facilities:

Building 83 Facility	$347,849.00
Furnishings	$16,000.00
Mezzanine	$18,000.00
SPS Library	$7,200.00
Railcar (storage)	$15,000.00
TOTAL	$404,049.00

Combined total(facilities/equipment) $1,017,799.00

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

Mock-up #1:	20,500 lbs.,	12,576 cubic feet
Mock-up #2:	7,000 lbs.,	6,720 cubic feet

Office Space 5568 square feet

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

Incoming AC power is processed through internal independent power transformers to provide isolation with external power system equipment, and phase input power to simulate shipboard distribution systems.

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

This facility is an approved exclusion area comprised of perimeter security fencing, electronic and mechanical access control devices. This facility is also TEMPEST compliant since processing classified information is a program requirement.

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

None.

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

The location of this Technical Capability at NSWC, Louisville provides the personnel, unique facilities and support personnel to accomplish the mission. The close proximity of major universities and colleges is a resource for cooperative education students (engineers in training) and a source for new engineers and technicians. The location is also convenient to customers on each Coast and the Wash, D.C. area for coordination with program sponsors.

The personnel and assets supporting this Technical Capability provide support and services unduplicated within any of the Warfare Centers. The diversity of skills, trades and facilities utilized in the development, acquisition, test, evaluation, installation and life cycle support of shipboard physical security equipments/systems provides the synergism to maintain a "smart buyer" capability and enhance the level of physical security for fleet units to meet the Navy's changing role. The shipboard mock-ups provide a highly unique asset to test and evaluate equipment, provide fleet training and evaluate/resolve fleet problems.

The interfunctional relationship between the core group of engineers, technicians and logistics management personnel is essential for optimal acquisition, supply support and continued improvements for shipboard physical security. The roles assigned to this Technical Capability are inherently Governmental and are essential for long-term core logistics support to the fleet.

The loss, or transfer, of this function would seriously limit the ability of the Navy to provide economical, technically capable, programmatic, engineering and logistics support expertise to the fleet. Transfer of this Technical Capability would result in the loss of many experienced physical security personnel who would choose not to relocate. If funds are not available to relocate the mock-ups, a serious impact would result from the inability to conduct in-house testing of off-the-shelf devices and internal developments. Deletion of this Technical Capability function would eliminate all "coordinated" progress toward enhanced physical

security for fleet units and the requirements for commonality, logistics supportability and configuration management of equipments/systems for fleet units would not be met.

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

Both mock-up facilities were constructed on site by NAVSURFWARCEN ORDSTA Louisville personnel, (riggers, welders, electricians, etc.). The magazine mock-up was constructed in 1986. The quarterdeck mock-up was constructed in 1992.

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

1.3 Surface Ship

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

Over the past five years, the magazine mock-up has been used on the average of approximately 40 hours per week. There have been occasions when equipment was left to operate continuously (24 hrs/day) for testing purposes.

12. Provide the projected utilization data out to FY1997:

Projected use of both mock-ups is expected to be in excess of 40 hours per week up through FY1997.

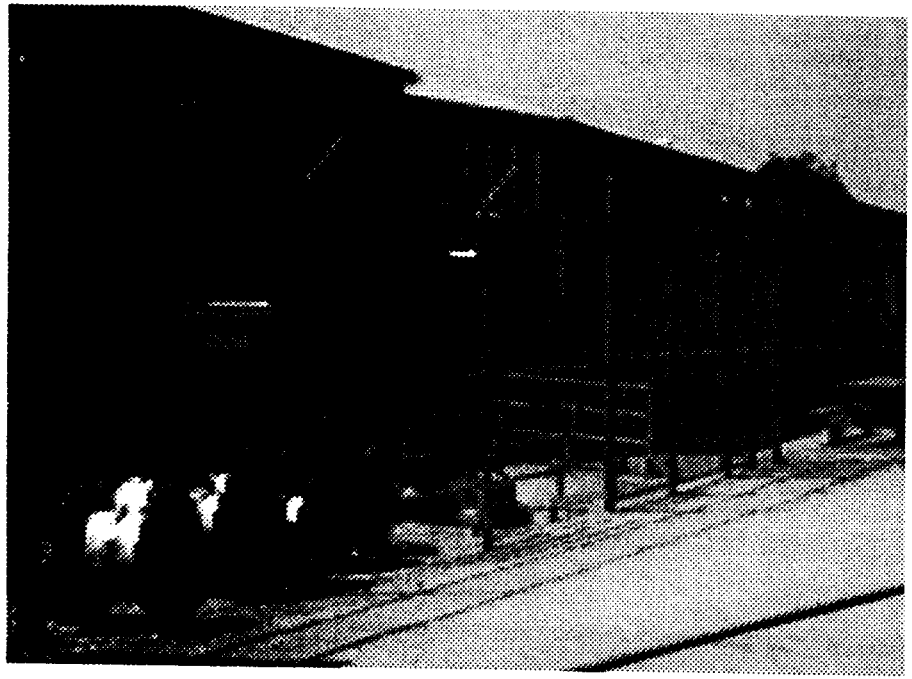
13. What is the approximate number of personnel used to operate the facility/equipment:

Approximately 25

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

Approximately 3

Shipboard Physical Security Programs Mock-up Area



ATTACHMENT B. TO DATA CALL 12, QUESTION 3.4.1

Technical Center Site	NSWC/Louisville
Facility/Equipment Nomenclature or Title	Naval Gun Weapons Systems Facility

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

The Naval Gun Weapons Systems Facility is a **uniquely integrated, fully operational, "state of the art"**, engineering and industrial facility (Louisville Site) which provides the Navy, as well as other DoD, non-DoD and FMS customers, with the **only qualified and certified depot** facility for Naval Gun Weapons Systems (due to previous consolidations, closures and downsizing initiatives, there is **no other similar facility that exists)**.

The primary missions of this facility are to provide **core leadership** in the acquisition, maintenance, and operational support of in-service and emerging NGWS/equipments; maintain the Navy's corporate memory **(technical knowledge repository)** of sufficient breadth, depth, and continuity to be able to perform as a smart buyer; maintain rapid response capability for reconstitution of our Naval forces if mobilization is needed to ensure that current and future fleet operational **readiness** requirements are achieved and maintained; through defense conversion and technological transfer initiatives, and strengthen the private sector's technology base for mission critical elements of NGWS/equipments. Future operational requirements, influenced by the Littoral Warfare Strategies described in "*...From the Sea*" insures that the requirement for this facility will be an enduring capability to provide Fleet readiness support. This facility is considered to be **fully capable of meeting any future projected needs.**

This facility is a collocation of engineering and depot maintenance facilities which provides the Navy a **unique full spectrum life cycle support capability to respond to reconstitution, surge/mobilization and rapid response requirements for Naval Gun Weapons Systems. This facility is a national asset recognized for its expertise as a leader both in and outside DoD.** The collocated Specialized Mechanical Devices Facility which was designated by the DoD Joint Logistics Center as one of the two original Flexible Computer Integrated Manufacturing (and Repair) (FCIM) Process Validation Enterprises for mechanical parts provides **significant and unique** support to this facility. The major assets (both personnel and equipment) supporting this facility represent a **unique capability which is economically impractical to replicate or relocate.** The following describes these assets:

- Highly Skilled Experienced Technical Personnel
- Gun Weapon Systems Maintenance & Overhaul Support Facility
- Gun Weapon Systems Engineering/Test & Advanced Training Facility
- Gun Weapon Systems Engineering Lab & Test Tower Facility
- Software Development/Test & Maintenance Facility
- Engineering & Production Documentation Support Facility
- Close-In Defense Modernization/Upgrade/Overhaul Facility
- Performance Engineering and Training Systems (PETS) Facility
- TE8000 Weapon System Test Range
- TE125 Indoor Antenna Analyzer/Compact Range
- Calibration Laboratory Facility
- Soldering & Wiring Technology Facility

1. **(Con't)**

Following are descriptions of the primary purposes of the major assets of this facility:

• Highly Skilled Experienced Technical Personnel - The technically sophisticated NGWS/equipments require a professional and technical personnel staff with a broad mix of skills and knowledge in the fields of science, engineering, logistics, ordnance technicians and industrial specialists. NSWC, Louisville's experienced engineering and technical support staff **are recognized by both the public and private sectors as the Navy's leading experts for Naval Gun Weapons Systems.** Although much of the skill mix has been achieved through formal education or apprenticeships and masters programs, the application of these skills in a hands-on environment over the period of operation of the NSWC, Louisville facilities (50 years) represents a significant corporate memory which is the **repository of technical knowledge** for NGWS/equipments gained through experience throughout the entire life cycle process. Their purpose is to **provide the continuity** inherently required in the support process of technically sophisticated NGWS/equipments.

• Gun Weapon Systems Maintenance & Overhaul Support Facility - The purpose of this asset is the integration and testing of complex gun systems ranging in size from 20 mm to 8 inches together with associated ammunition handling systems. This includes the capability to perform complete disassembly of major and minor caliber gun mounts, remanufacturing of the individual components and the subsequent buildup of the components including the alignment and interfacing of each component into a functions operating gun mount. This asset also possesses all the required capabilities to perform all required functional tests of the gun mounts to assure proper and functional operation of all the components installed during re-assembly of the mount. This is inclusive of providing components for all these systems for the Supply Parts Control Center (SPCC) Navy and the 2J Cog component support.

• Gun Weapon Systems Engineering/Test & Advanced Training Facility - The purpose of this asset is to provide engineering prototype development, integration testing, documentation verification, training, simulation of duplicate fleet conditions and fleet support. This asset provides intermediate level training for U.S. Fleet, civilian and foreign military training requirements. This asset consists of the 5"/54 caliber MK 45 and MK 42 Gun areas, the 76mm MK 75 Gun area, the 3"/50 MK 33, the MK 30 Gun areas, a minor caliber indoor firing range, and associated classrooms.

This asset has a unique projectile return chute system that allows rounds to be pushed out the end of the gun barrel and returned two deck levels down to the loader drums for recycling. This asset is capable of cycling dummy ammunition through the entire loading sequence as well as operating in automatic, step load, and simulate mode (i.e. MK 45 and MK 42).

This asset has an on-site indoor live fire testing associated with the 3"/50 area behind bullet proof glass and fixed permanent mounting for a variety of weapons. Next to the bullet proof glass is a small staging area with work benches and testing equipment. Outside the building is the projectile collector which consists of a bullet trap, a 500 gallon tank filled with 50 percent water and 50 percent antifreeze, and a pump. The pump cycles the water mixture in the trap to decelerate the projectile. This asset also provides live fire proofing for the MK 19 Mod 3 40mm Grenade Machine Gun it's barrels and prototype weapon designs and concepts. The proofing of the MK 19 Mod 3 and barrels are crucial for inspection and prompt turn around on overhaul.

1. **(Con't)**

• Gun Weapon Systems Engineering Lab & Test Tower Facility - The purpose of this asset is to provide In-Service and Product engineering functional area support for related test, development, specialized repair, maintenance management, and improvements to Gun Weapon Systems and Equipments. This includes Digital Gun Computing/Data Processing Systems, software/firmware certification and equipment support to Gun Weapon Systems Integration Testing prior to shipboard/fleet installation and utilization.

• Software Development/Test & Maintenance Facility - The purpose of this asset is the development and maintenance of tactical and operational software unique to Naval Gun Weapons Systems (i.e. MK 34 Gun Weapon System and MK 68 Gun Fire Control System), and the development of Test Program Sets (TPSs) in support of testing (i.e. depot, intermediate and operational level maintenance) and documentation for various systems including AN/SPS-49 Radar, MK 15 PHALANX, MK 57 NATO Seasparrow Surface Missile System, MK 86 Gun Fire Control System, MK 23 Target Acquisition System, MK 42 Gun Mount, MK 45 Gun Mount, MK 68 Gun Fire Control System, and the MK 13 Missile Launcher. These TPSs are for either the AN/USM-465 Portable Service Processor or the AN/TSM-192 Transportable Analog Tester. Software Development Branch personnel are also beginning development of TPSs for the Consolidated Automated Support System (CASS).

• Engineering & Production Documentation Support Facility - The purpose of this asset is to provide a Central Computer Aided Design and Drafting (CAD) area. This asset contains six CAD and CAD related systems that are used to develop three-dimensional engineering models for mechanical and electrical product design and to produce electronic printed wiring board Phototool Masters for electronic circuit card manufacture. This asset has been given authority by NAVSEA to control the creation and modification of all final official Navy full disclosure drawings. High quality master engineering drawings are produced for microfilm distribution to Navy and Contractor facilities involved in refurbishment, procurement and manufacture of ordnance parts. This asset has been involved in the implementation of a CALS compliant CAD and Image Systems Support Center. This asset is capable of receiving digital data from Contractor and other Navy CAD systems on magnetic tape, floppy disks and over an Ethernet network connection. This asset is also capable of analyzing, editing and converting the digital data using CALS data transfer standards and methods.

In addition, this asset includes a Technical Reference Center which serves as the Central Reference, Research and Distribution Center for Technical Material that contains technical books, journals, reports, manufacturing data, magazines and an audio and video tape library on all the latest in ordnance equipment. An extensive documentation service on CD-ROM is also available including Military Specifications, Industry Standards, Naval and DoD instructions, World Wide Industry Standards and Vendor Information.

• Close-In Defense Modernization/Upgrade/Overhaul Facility - The primary purpose of this asset is to provide the **only** Department of Defense asset certified/validated to perform modernization/upgrade/overhaul of Close-In Defense Systems. Close-In Defense Systems includes the PHALANX Close-In Weapon System (CIWS) and the Rolling Airframe Missile (RAM) Guided Missile Launching System (GMLS). This asset includes the Production Engineering and Repair area, the Phalanx Engineering Maintenance area, an Automated Storage and Retrieval System (ASRS), an Environmental Test area and a Pneumatic Test area. The following paragraphs describe the assets:

-This asset is used for modernization/upgrade/overhaul of PHALANX CIWS and RAM GMLS Weapon systems including system, subsystem and component testing and evaluation. This asset supports

1. (Con't)

the U.S. Navy Fleet and directed Foreign Military Sales (FMS) workload.

-The Production Engineering and Repair area performs modernization, upgrade, repair and acceptance testing of digital, analog, hybrid, electromechanical/inertial, RF and microwave modules and assemblies. This asset is also used to design and develop TPSs for fault isolation and acceptance testing. In addition, this asset includes a Complex Information Network System used for supporting reliability and maintainability analysis performed by the In-Service Engineering Agents (ISEA).

-The Phalanx Engineering Maintenance area provides operational and maintenance support of the Naval Sea Systems Command Engineering test and evaluation systems. These systems include both Engineering Development Model (EDM) and Production Suitability Model (PSM) systems which are utilized in such tasks as advanced engineering development, software validations, production procedures and proofing support, test analyze and fix functions, and qualification and acceptance testing.

-The ASRS automatically stores and retrieves purchased material used in support of the PHALANX and RAM programs.

-The Environmental Test area provides qualification testing and screening of weapon system subassemblies and components in three environmental areas: Mechanical Shock and Vibration, Humidity and Thermal Cycling and Salt Fog Exposure. This area is used to support Environmental Stress Screening (ESS) during the manufacturing process and provide qualification testing.

-The Pneumatic Test area provides the capability necessary to perform acceptance testing of Pneumatic Gun Drive Subsystem (PGDS) components and subassemblies using high pressure and/or high flow pneumatic test media. This capability includes providing required test stimuli, monitoring equipment, and interface connections.

• Performance Engineering and Training Systems (PETS) Facility - This asset provides PHALANX CIWS operation and maintenance training, fleet and production technical assistance and engineering verification, validation and analysis of PHALANX CIWS; faults, upgrades, software, ORDALTs, ECPs, new vendors and publications.

• TE8000 Weapon System Test Range - This asset provides Subsystem integration and final system acceptance testing of the PHALANX Close-In Weapon System.

• TE125 Indoor Antenna Analyzer/Compact Range - This asset provide certification and acceptance testing of antenna assemblies in the Modernization/Upgrade/Overhaul of MK 15 PHALANX CIWS and MK 92 Fire Control System.

• Calibration Laboratory Facility - This asset provides physical, mechanical, electrical, electronic, dimensional and optical calibration services and support of the Modernization/Upgrade/Overhaul of Naval Gun Weapon Systems.

• Soldering & Wiring Technology Facility - The primary purpose of this asset is to administrate the training and certification of personnel assigned electronic soldering duties related to the Modernization/Overhaul/Upgrade of Naval Gun Weapon Systems.

1. (Con't)

In summary, this facility has the knowledge and skills of highly specialized professional engineering and technical personnel integrated into a **"state of the art"** engineering/industrial capability. The specialized knowledge and skills needed to perform this capability can **only have been acquired through years of hands-on experience**, formal education, and specialized training. The facility supporting this capability is **unique because it is the only remaining facility within DoD** having both the capability and capacity to provide full-spectrum life cycle support for highly complex Naval Gun Weapons Systems. **This unique facility which could only be replicated at great expense or not at all satisfies DON's Imperative to maintain critical and unique facilities in support of Fleet readiness.** This facility also supports **DON's Acquisition/Contracting Imperative** to retain the ability to function as a **"smart buyer"**. In addition, this facility ensures that suppliers perform to contract requirements, systems meet operational requirements, contract and financial management expertise are retained to perform inherent governmental functions within the life cycle support process. This facility satisfies **DON's Depot/Industrial/Maintenance/Engineering Imperative** by providing an **organic depot** capability which can meet **surge** and **mobilization** requirements; selectively fabricate, modify or repair weapon systems as a means to control costs and **mitigate risks** of supplier failure (Last Source of Repair, **LSOR**); and control access and disassembly to **assess** in-service industrial conditions of weapon systems. Our **rapid response** ability in crisis situations was demonstrated during *Operation Desert Storm*. This facility would be **required for reconstitution** because it is the **only remaining** facility having the capability to perform this role for NGWS/ equipments. This capability supports **Level III,** Naval Gun Weapon Systems, which support a broad range of tactical missions as well as the interface requirements of Level II, Combat Weapon Systems.

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

• Gun Weapon Systems Maintenance & Overhaul Support Facility	Fixed
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	Fixed
• Gun Weapon Systems Engineering Lab & Test Tower Facility	Fixed
• Software Development/Test & Maintenance Facility	Moveable
• Engineering & Production Documentation Support Facility	Moveable
• Close-In Defense Modernization/Upgrade/Overhaul Facility	Fixed
• Performance Engineering and Training Systems (PETS) Facility	Movable
• TE8000 Weapon System Test Range	Fixed
• TE125 Indoor Antenna Analyzer/Compact Range	Fixed
• Calibration Laboratory Facility	Fixed
• Soldering & Wiring Technology Facility	Movable

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

• Gun Weapon Systems Maintenance & Overhaul Support Facility	$ 56,165,000.
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	$ 9,649,000.
• Gun Weapon Systems Engineering Lab & Test Tower Facility	$ 5,512,000.
• Software Development/Test & Maintenance Facility	$ 1,300,000.
• Engineering & Production Documentation Support Facility	$ 1,596,000.
• Close-In Defense Modernization/Upgrade/Overhaul Facility	$ 126,339,500.
• Performance Engineering and Training Systems (PETS) Facility	$ 10,436,000.
• TE8000 Weapon System Test Range	$ 7,033,000.
• TE125 Indoor Antenna Analyzer/Compact Range	$ 2,150,000.
• Calibration Laboratory Facility	$ 3,145,323.
• Soldering & Wiring Technology Facility	$ 162,500.
TOTAL	**$ 223,488,323.**

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

	Weight(lb)	Cube(ft)
• Gun Weapon Systems Maintenance & Overhaul Support Facility		6,147,959
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	265,700	84,398
• Gun Weapon Systems Engineering Lab & Test Tower Facility		103,184
• Software Development/Test & Maintenance Facility	4,660	312
• Engineering & Production Documentation Support Facility	11,314	22,840
• Close-In Defense Modernization/Upgrade/Overhaul Facility		3,295,250
• Performance Engineering and Training Systems (PETS) Facility	43,785	4,263
• TE8000 Weapon System Test Range	16,000	4,900
• TE125 Indoor Antenna Analyzer/Compact Range	41,000	
• Calibration Laboratory Facility	55,000	51,600
• Soldering & Wiring Technology Facility		6,400

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

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  440 volt AC, 3-phase
  5000 psi air supply
  8000 psi hydraulic pumps

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  440 volt AC, 3-phase, 60 Hz, Type Delta, 164 Kw peak
  175 psi air at 48.7 cfm
  115 volt AC, 3-phase, 400 Hz, Type Delta

5. (Con't)

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  115 volt AC, 3-phase, 400 Hz, Type Delta
  440 volt AC, 3-phase, 60 Hz, Type Delta

- Software Development/Test & Maintenance Facility
  None

- Engineering & Production Documentation Support Facility
  None

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  90 psi air supply
  Dried and filtered air and nitrogen sources
  Water source (30 GPM at 10 PSID minimum/150 PSID maximum)

- Performance Engineering and Training Systems (PETS) Facility
  Water source (30 GPM at 10 PSID minimum/150 PSID maximum)

- TE8000 Weapon System Test Range
  440 volt AC, 3-phase, 60 Hz, 700 amps for seven test bays

- TE125 Indoor Antenna Analyzer/Compact Range
  480 volt AC, 3-phase, 60 Hz, 120 amp

- Calibration Laboratory Facility
  90 psi air supply

- Soldering & Wiring Technology Facility
  None

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

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  Reinforced foundation for disassembly, assembly and testing pits
  Special foundation to support transportation of heavy equipment and systems
  Rail Service
  20 and 75 ton overhead crane service
  20,000 psi climate control chamber
  20 foot by 18 foot overhead door service
  Environmental compliant painting chamber

6. (Con't)

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  Reinforced building structures and foundations
  Bullet proof walls and ceilings in live fire area

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  None

- Software Development/Test & Maintenance Facility
  None

- Engineering & Production Documentation Support Facility
  None

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  An adequately smooth floor for air bearing system transportation
  Air handling vent systems required for paint booth and degreaser area
  ESD compliant grounding RF shielded enclosure for making FM noise measurements
  Foundation with concrete support piers for the ASRS Two concrete rebar footers for TE215 measuring 4' x 8' x 18' deep for the Environmental Test area Building 2 of the Pneumatic Test area must be capable of supporting the gross equipment weight in addition to two tanks weighing approximately 7,000 pounds each when empty A raised computer floor for cabling and for use as an air conditioning plenum within the Production Engineering and Repair area.

- Performance Engineering and Training Systems (PETS) Facility
  None

- TE8000 Weapon System Test Range
  Ground rods for the antenna towers, test bays, and equipment

- TE125 Indoor Antenna Analyzer/Compact Range
  Level foundation for range reflector and antenna positioner
  RF shielding for console room and anechoic chamber

- Calibration Laboratory Facility
  Vibration and magnetic isolation

- Soldering & Wiring Technology Facility
  None

7. State any environmental control requirements (i.e., temperature, humidity, air scrubbing).

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  Environmental compliant painting chamber
  Climate controlled chamber
  Ventilation system for freon degreasing operation
  Environment containment for rexroth hydraulic pump area

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.
  Ventilation of combustion gases in live fire area

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- Software Development/Test & Maintenance Facility
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- Engineering & Production Documentation Support Facility
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.
  Air filtration system for CAD system

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- Performance Engineering and Training Systems (PETS) Facility
  None

- TE8000 Weapon System Test Range
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained in the test system area.

- TE125 Indoor Antenna Analyzer/Compact Range
  Relative humidity of 50% +/- 10% and temperature controlled between 66 degrees and 78 degrees Fahrenheit must be maintained.

- Calibration Laboratory Facility
  Relative humidity of 40% +/- 20% and temperature control is dependent on the type of calibration performed.
  Dust - 700 micron per cubic foot maximum

- Soldering & Wiring Technology Facility
  Venting and external vacuum system.

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

Due to previous consolidation efforts, the Gun Weapons Systems Facility at NSWC, Louisville is the only remaining comprehensive depot/engineering facility with the capability to support the DoD Commodity Group of Sea Systems Subgroup Weapons Systems (Surface). In preservation of DON readiness, NSWC, Louisville maintains required critical and unique capabilities found nowhere else in the DoD and **could only be replicated at a great cost.**

The inherently governmental function (smart-buyer) performed by this facility represents the Navy's corporate memory for NGWS/equipments and is **impractical for the private sector to assume.** This facility has been established over most of the fifty years that the facility has been a provider of goods (military) and services (engineering). The customer base of this facility includes other branches of DoD, non-DoD, and FMS customers. For example, the FMS customer base for the PHALANX CIWS security assistance program currently supports Australia, Canada, Greece, Israel, Japan, Portugal, Saudi Arabia, Taiwan, Turkey and the United Kingdom with Brazil, Egypt, New Zealand, Spain, Thailand and Venezuela in the process of obtaining systems.

The full spectrum hands-on experience in both a sponsorship role and appraisal role in support of acquisition and readiness in the functional areas of exploration, assessment, development, evaluation, production, operation and maintenance provides a unique synergy for NGWS/equipments support.

Undoubtedly, this facility's most important resource is its people which cumulatively represents thousands of man-years of experience. **The stability of it's work force provides the continuity necessary to perform the inherently governmental roles of sponsorship and appraisal required for life cycle support of NGWS/equipments.** Whether developing, modernizing, upgrading, maintaining or producing major system prototypes or reactivating "Old Warriors" (Battleships) this facility has been able to maintain a core technological base to respond to any operational fleet requirement. **Operational readiness would be impacted if this facility was not maintained organically.**

This unique integration of engineering/industrial capability **provides a full spectrum manufacturing, repair and systems overhaul capability for which no other source exists, for products where no interest exists in the private sector and for rapid response situations to fleet safety requirements.**

Loss of this facility would result in an irreversible loss of the Navy's corporate memory (a DON imperative to maintain a repository of technical knowledge for critical mission essential Weapons Systems/equipments supported by this facility) and the loss of an inherently governmental role, that of being a smart buyer. Additionally, the Navy's ability to reconstitute resources to address future threats would be severely limited.

8. (Con't)

Attributes of the location of this facility is an **affordable** labor market (prevailing labor rates lower than national average); **synergistic full spectrum** engineering and industrial facility; close proximity to major air, rail, river and interstate transportation routes; and readily available labor source from nearby colleges and universities (e.g. University of Louisville). The affordability attribute and location in a low cost of living area within a major metropolitan area, provides an environment necessary to sustain the stability for maintaining a "smart buyer" capability over the life cycle of a weapon system. Furthermore, this environment attracts and retains a highly technical, quality and stable workforce.

One of the greatest benefits to this facility's location in the central midwest is that it provides a consolidated "full spectrum" engineering and industrial activity that is capable of supporting the Atlantic, Pacific and Gulf Coast Activities. **This eliminates the need to replicate the Naval Gun Weapons Systems capability (i.e. an affordable one stop shop for our customers).**

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

The Gun Weapons Systems Facility began construction in 1941. Original machinery was transported from the old Gun Factory in Washington, D. C. Construction continued through the 1940's and 1950's. In 1985 this facility was expanded through the purchase of adjacent properties to support the addition of the PHALANX CIWS depot capability. Specific dates for the constructed/purchased and last upgrade of the major assets of this facility are as follows:

	Constructed/ Purchased	Last Upgrade
• Gun Weapon Systems Maintenance & Overhaul Support Facility	1967	1993
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	1960	1993
• Gun Weapon Systems Engineering Lab & Test Tower Facility	1971	1990
• Software Development/Test & Maintenance Facility	1991	1993
• Engineering & Production Documentation Support Facility	1962	1992
• Close-In Defense Modernization/Upgrade/Overhaul Facility	1985	1994
• Performance Engineering and Training Systems (PETS) Facility	1981	1993
• TE8000 Weapon System Test Range	1986	1989
• TE125 Indoor Antenna Analyzer/Compact Range	1986	1992
• Calibration Laboratory Facility	?	1993
• Soldering & Wiring Technology Facility	?	1993

10. List the functional support areas that this facility/equipment support.

- Gun Weapon Systems Maintenance & Overhaul Support Facility
  2.1 Gun Systems

- Gun Weapon Systems Engineering/Test & Advanced Training Facility
  2.1 Gun Systems

- Gun Weapon Systems Engineering Lab & Test Tower Facility
  2.1 Gun Systems

10. (Con't)

- Software Development/Test & Maintenance Facility
  2.1 Gun Systems

- Engineering & Production Documentation Support Facility
  2.1 Gun Systems
  2.8 Launchers

- Close-In Defense Modernization/Upgrade/Overhaul Facility
  2.1 Gun Systems
  2.8 Launchers

- Performance Engineering and Training Systems (PETS) Facility
  2.1 Gun Systems

- TE8000 Weapon System Test Range
  2.1 Gun Systems

- TE125 Indoor Antenna Analyzer/Compact Range
  2.1 Gun Systems
  2.8 Launchers

- Calibration Laboratory Facility
  2.1 Gun Systems
  2.8 Launchers

- Soldering & Wiring Technology Facility
  2.1 Gun Systems
  2.8 Launchers

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

The average utilization is based on direct workload controlled by the Gun Weapon Systems Facility minus that direct workload performed within other NSWC, Louisville facilities. **Average equals 769 workyears.**

12. Provide the projected utilization data out to FY 1997.

Projected utilization (direct workload controlled by the Gun Weapon Systems Facility) should remained stabled through FY97 based on current readiness requirements. **Utilization projection is 769 workyears.**

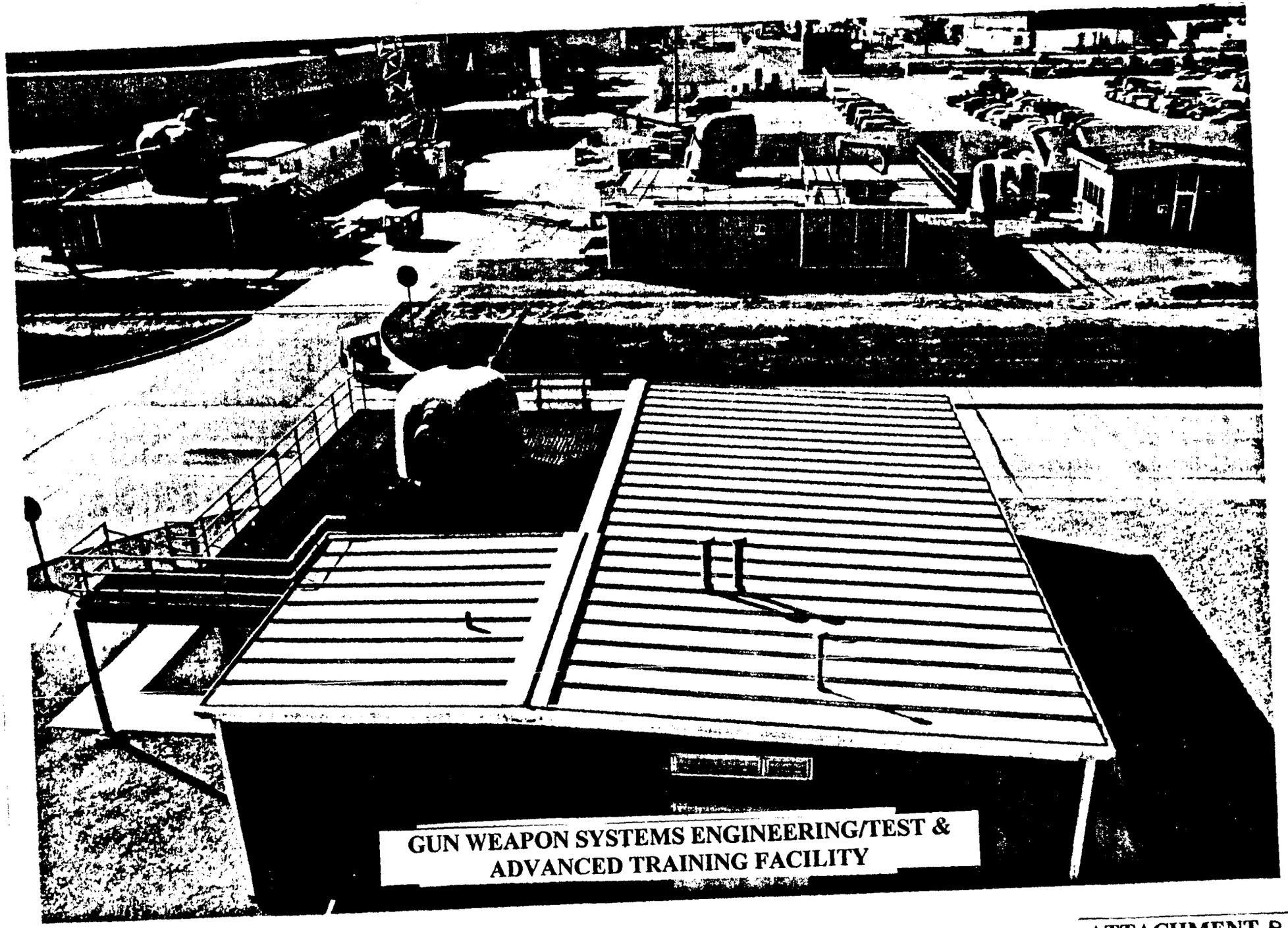
13. What is the approximate number of personnel used to operate the facility/equipment?

• Gun Weapon Systems Maintenance & Overhaul Support Facility	157
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	29
• Gun Weapon Systems Engineering Lab & Test Tower Facility	8
• Software Development/Test & Maintenance Facility	16
• Engineering & Production Documentation Support Facility	8
• Close-In Defense Modernization/Upgrade/Overhaul Facility	225
• Performance Engineering and Training Systems (PETS) Facility	4
• TE8000 Weapon System Test Range	26
• TE125 Indoor Antenna Analyzer/Compact Range	3
• Calibration Laboratory Facility	19
• Soldering & Wiring Technology Facility	1

* Note - These figures do not include the following type of personal: clerical, administrative, engineering, etc.

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

• Gun Weapon Systems Maintenance & Overhaul Support Facility	13
• Gun Weapon Systems Engineering/Test & Advanced Training Facility	5
• Gun Weapon Systems Engineering Lab & Test Tower Facility	2
• Software Development/Test & Maintenance Facility	3
• Engineering & Production Documentation Support Facility	2
• Close-In Defense Modernization/Upgrade/Overhaul Facility	3
• Performance Engineering and Training Systems (PETS) Facility	3
• TE8000 Weapon System Test Range	2
• TE125 Indoor Antenna Analyzer/Compact Range	1
• Calibration Laboratory Facility	1
• Soldering & Wiring Technology Facility	0



ATTACHMENT B

NSWC CRANE DIV, LOUISVILLE
DATA CALL # 12

JL
SEA09X
5/12/94

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print

Signature

COMMANDER
Title

6 MAY, 1994
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (SEL) D.P. SARGENT, JR.
NAME (Please type of print

Signature

COMMANDER
Title

5/11/94
Date

NAVAL SURFACE WARFARE CENTER
Activity

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

MAJOR CLAIMANT LEVEL

G. R. STERNER
NAME (Please type or print

Signature

Title

5-13-94
Date

Commander
Naval Sea Systems Command
Activity

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

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

J.B. Greene, Jr.
NAME (Please type of print

Signature

Acting
Title

27 May 1994
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

R.W. GILBERT
NAME (Please type of print)

Signature

COMMANDING OFFICER
Title

6 MAY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

FURTHER EXPLANATION FOR CHANGES MADE TO DATA CALL #12 REVISION (8/19/94)

Pages 9 and 10 of Data Call #12 do state that "This capability supports the joint Army/Navy developmental efforts for liquid propellant testing and guided munitions." The operative word is "supports". This TC is not responsible for development of guided munitions so the Weapons-Guided Projectiles, Common Support Function was not used. Since the Guns that launch guided projectiles are under this TC, technical support is provided by core personnel within the Weapons-Guns and Ammunition, Common Support Function. Loss of this TC capability would have a negative impact on the munitions developer since Gun expertise would not be available.

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

R.W. GILBERT	
NAME (Please type or print)	Signature
COMMANDING OFFICER	19 AUGUST, 1994
Title	Date
CRANE DIVISION NSWC, LOUISVILLE	
Activity	

Revised page 10

8-19-94
REVISION

NAVAL SURFACE WARFARE CENTER
CRANE DIVISION, LOUISVILLE SITE
DATA CALL #12

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

NEXT ECHELON LEVEL (if applicable)

J. M. CARNEY
NAME (Please type or print

Signature

COMMANDER
Title

8/21/94
Date

CRANE 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 (Sel) D. P. Sargent, Jr.
NAME (Please type of print

Signature

Commander
Title

8/23/94
Date

Naval Surface Warfare Center
Activity

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print

Signature

G. R. STERNER
Title
Commander
Naval Sea Systems Command

8/27/94
Date

Activity

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

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

W. A. EARNER
NAME (Please type of print

Signature

Title

9/1/94
Date

REPRODUCED AT GOVERNMENT EXPENSE

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

JON R. CUMMINGS	Jon R Cummings
NAME (Please type or print)	Signature
COMMANDING OFFICER	9/14/94
Title	Date
NAVSURFWARCEN ORDSTA	
Activity	

1. In regards to the BSAT request for clarification dated 12 September 1994, the response to question #3.2.4.2 of Data Call #12 is provided.

Revised P 20

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

NEXT ECHELON LEVEL (if applicable)

9-14-94 REVISION

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

9/12/94
Date

Crane 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 (Sel) D. P. SARGENT, JR.
NAME (Please type or print)

Signature

COMMANDER
Title

9/15/94
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

G. R. STERNER
Commander
Naval Sea Systems Command
Title

9/19/94
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)

W. A. EARNER
NAME (Please type or print)

Signature

Title

9/19/94
Date

DATA CALL #12
LOUISVILLE SITE

DATA CALL #12
LOUISVILLE SITE

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print)

Signature

COMMANDER
Title

7/22/94
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. Sargent, Jr.
NAME (Please type or print)

Signature

Commander
Title

7/28/94
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

G. R. STERNER
NAME (Please type or print)

Signature

Title

8/5/94
Date

Commander
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

8/8/94
Date

DATA CALL #12
LOUISVILLE SITE

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

R.W. GILBERT	
NAME (Please type or print)	Signature
COMMANDING OFFICER	22 JULY, 1994
Title	Date
CRANE DIVISION NSWC, LOUISVILLE	
Activity	

CAPACITY ANALYSIS:
DATA CALL #4 WORK SHEET FOR
TECHNICAL CENTER or LABORATORY: NSWC LOUISVILLE

Table of Contents

Section	Page
1. Historical and Projected Workload	1
2. Current Class 2 Assets	13
3. Class 2 Space Available for Expansion	23
4. Class 1 Space Available for Expansion	27
5. Base Infrastructure Capacity	29
6. Ship Berthing Capacity	33
7. Operational Airfield Capacity	33
8. Depot Level Maintenance Capacity	33
9. Ordnance Storage Capacity	33

TAB A: Ship Berthing Capacity
TAB B: Operational Airfield Capacity
TAB C: Depot Level Maintenance Capacity
TAB D: Ordnance Storage Capacity

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

7 April 1994

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

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

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

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

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

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

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

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

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

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

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

Table 1.1 Historical and Projected Workload for NSWC, LOUISVILLE (UIC N00197)

Fiscal Year	Total Funds Budgeted ($K)	Total Funds Received w/o Direct Cite ($K)	Direct Cite Funds Received ($K)	Budgeted Wkyrs	Actual In-House Wkyrs	Actual Onsite Contract Wkyrs
86	139431	127942	8361	2493	2559	294
87	164752	140478	40600	2527	2413	297
88	134082	125837	11642	2532	2386	303
89	145038	162252	13006	2472	2472	282
90	152042	192250	16565	2251	2589	294
91	163041	195659	12672	2264	2666	285
92	191677	189541	10841	2705	2663	275
93	199488	216823	8135	2561	2462	202
94	207258			2229		
95	186714			2120		
96	194818			1857		
97	88362			1746		

*** FOR FY94-97 THE CRANE AND LOUISVILLE SITES OF THE CRANE DIVISION SUBMIT A JOINT BUDGET. FOR THE SITE SPECIFIC TABLE THE BUDGET WAS SPLIT ACCORDING TO THE RATIO OF PERSONNEL (63% CRANE SITE AND 37% LOUISVILLE SITE)**

Table 1.2 Historical and Projected Workload for Detachments of NSWC, LOUISVILLE (UIC N00197)

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

TABLE 1.3 FY 1993 BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVSEA					690				5197		2974	503	2222		9865
NAVAIR												170			
SPC															2868
FAC									73						66
ARMY-DAR									300						6
CMC					560										
OTHER GOV'T															89
OTHER								12							172
OTHER NAVY					112				1950		14	84	23		2446

TABLE 1.3 FY 1994 BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVSEA				2100	1480			1278	40256		6167	18773	11366	519	14559
NAVAIR											1250	90		395	
SPO									419						40
SPC									90					7894	958
FAC									20		28				
NSW					480				8						
NAW														50	
OTHER NAVY					1				6124		225	20	1363	5158	10
USMC					1179				125						305
ARMY									100						70
DAF															60
DOD															526
OTHER GOV'T									200						170

TABLE 1.3 FY 1994 (CON'T) BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
OTHER									86						

TABLE 1.3 FY 1995 BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVSEA				2100	1513			1200	57357		1277	33780	10452		22957
NAVAIR											1250	135		330	
SPO									480						40
SPC									180					7663	1009
SPW															
FAC									20						
CCA															
CCP															
NSW															
NAW														40	
NUWC															
OTHER NAVY					1				2194			20	1363	7740	10
USMC					946				376						

TABLE 1.3 FY 1995 (CON'T) BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
ARMY															125
DAF															60
DOD															571
OTHER GOVT															54
OTHER															70

TABLE 1.3 FY 1996 BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVSEA				8000	1300			1200	66327		1120	35667	10352		17583
NAVAIR											1250	104		255	
SPO									468						40
SPC														7093	1817
SPW															
FAC									20						
CCA															
CCP															
NSW															
NAW														30	
NUWC														450	
OTHER NAVY					1				2194			20	1533	3998	10
USMC					6769										

TABLE 1.3 FY 1996 (CON'T) BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
ARMY															230
DAF															60
DOD															721
OTHER GOVT															54
OTHER															20

TABLE 1.3 FY 1997 BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
NAVSEA				8000	2350				68040		1122	30083	10352		22569
NAVAIR											1250	104		250	
SPO									458						40
SPC														7143	1810
SPW															
FAC									20						
CCA															
CCP															
NSW															
NAW														20	
NUWC														450	
OTHER NAVY					1				1774			20	1533	3999	10
USMC					6946										

TABLE 1.3 FY 1997 (CON'T) BREAKOUT OF FUNDS BUDGETED for NSWC, LOUISVILLE (UIC N00197)

SPONSOR	RDT&E(N)							Other RDT&E	Other Appropriation						
	6.1	6.2	6.3a	6.3b	6.4	6.5	6.6		OMN	APN	OPN	WPN	SCN	Other Navy	All Other
ARMY															357
DAF															60
DOD															931
OTHER GOVT															54
OTHER															20

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

For your Site:

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

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

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

Table 2.1 Main Site Class 2 Assets of NSWC, LOUISVILLE (UIC N00197)

Building type	NAVFAC (P-80) category code	Gross Floor/Building Area (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100	18315	N/A	N/A	18315
Maintenance & Production	200	1352420	N/A	N/A	1352420
Science labs	310	N/A	N/A	N/A	N/A
Aircraft labs	311	N/A	N/A	N/A	N/A
Missile and Space labs	312	N/A	N/A	N/A	N/A
Ship and Marine labs	313	2851	N/A	N/A	2851
Ground Transportation labs	314	N/A	N/A	N/A	N/A
Weapon and Weapon Systems labs	315	6077	N/A	N/A	6077
Ammunition, Explosives, & Toxics labs	316	N/A	N/A	N/A	N/A
Electrical Equip. labs	317	854	N/A	N/A	854
Propulsion labs	318	N/A	N/A	N/A	N/A
Miscellaneous labs	319	N/A	N/A	N/A	N/A
Underwater Equip. labs	320	N/A	N/A	N/A	N/A
Technical Services labs	321	N/A	N/A	N/A	N/A
Supply Facilities	400	168855	N/A	N/A	168855
Hospital & other Medical	500	3993	N/A	N/A	3993
Administrative Facilities	600	101457	N/A	N/A	101457
Housing & Community	700	41402	N/A	N/A	41402
Utilities & Grounds	800	26670	N/A	N/A	26670
Other		N/A	N/A	N/A	N/A
	Totals	1722894	N/A	N/A	1722894

Square footage numbers represent a total of all CCN's under each major group number and is not restricted to the building type description.

d. In accordance with NAVFACINST 11010.44E, an Inadequate facility cannot be made Adequate for its present use through "economically justifiable means". For all the categories above where Inadequate facilities are identified provide the following information:

(1) FACILITY TYPE/CODE:
(2) WHAT MAKES IT INADEQUATE?
(3) WHAT USE IS BEING MADE OF THE FACILITY?
(4) WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
(5) WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
(6) CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
(7) HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

Table 2.2 Main Site Class 2 Space of NSWC, LOUISVILLE (UIC N00197) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA Assigned (KSF)
Name	UIC		
Defense Printing Service (DPS)		229-50	13108
Defense Finance and Accounting Service (DFAS)		610-10	3885
Schedule Airline Travel Office (SATO)		610-10	101
		Total:	17094

Table 2.3 Class 2 Space Utilized/Leased by NSWC, LOUISVILLE (UIC N00197)

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

For your Detachment sites not receiving this Data Call directly:

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

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

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

Table 2.4 Class 2 Assets of NSWC, LOUISVILLE (UIC N00197) Occupied by Detachments

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

h. In accordance with NAVFACINST 11010.44E, an Inadequate facility cannot be made Adequate for its present use through "economically justifiable means". For all the categories above where Inadequate facilities are identified provide the following information:

(1) FACILITY TYPE/CODE:
(2) WHAT MAKES IT INADEQUATE?
(3) WHAT USE IS BEING MADE OF THE FACILITY?
(4) WHAT IS THE COST TO UPGRADE THE FACILITY TO SUBSTANDARD?
(5) WHAT OTHER USE COULD BE MADE OF THE FACILITY AND AT WHAT COST?
(6) CURRENT IMPROVEMENT PLANS AND PROGRAMMED FUNDING:
(7) HAS THIS FACILITY CONDITION RESULTED IN C3 OR C4 DESIGNATION ON YOUR BASEREP?

Table 2.5 Class 2 Space at Detachment Sites of NSWC, LOUISVILLE (UIC N00197) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA (KSF) Assigned
Name	UIC		
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
		Total:	N/A

Table 2.6 Class 2 Space Utilized/Leased by Detachments of NSWC, LOUISVILLE (UIC N00197)

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

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

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

119000 SQFT.

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

119000 SQFT.

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

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

Table 3.1 Constrained Class 2 Space Available for Expansion at NSWC, LOUISVILLE (UIC N00197)

Building # / Category Code (3 digit)	Current NFA (KSF)	Additional Capacity Provided By Expansion		Height of High Bay (FT)	Estimated Cost of Rehab ($K's)
		NFA (KSF)	# of Personnel		
"C"/212	85.5	N/A	N/A	47.75	1164.5 (NOTE #1)
"E"/213	26.6	N/A	N/A	46.25	NOT CURRENTLY AVAILABLE (NOTE #2)
56/215	3.8	N/A	N/A	18.0	0.0
122/212	3.1	N/A	N/A	35.0	30.0(NOTE #1)
Totals	119.0				1194.5

NOTE #1 - The estimated average cost of $13.50 per square foot of building space for relocating equipment and preparing these buildings for occupancy is considered "minimal" for this data call.

NOTE #2 - The use of "E" Building will require the remediation or a waiver because the site has been formally designated as an Installation Restoration (IR) Site. Initial sampling has found contamination at the former plating facility site. The site is in the Remedial Investigation/Feasibility Study Action Phase of Superfund Actions.

Table 3.2 Unconstrained Class 2 Space Available for Expansion at NSWC, LOUISVILLE (UIC N00197)

Building # / Category Code (3 digit)	Current NFA (KSF)	Additional Capacity Provided By Expansion		Height of High Bay (FT)	Estimated Cost of Rehab ($K's)
		NFA (KSF)	# of Personnel		
BR1/200	0.0	52.8	N/A	47.75	12713.9
BR2/200	0.0	48.1	N/A	47.75	11110.4
BR3/200	0.0	47.1	N/A	35.0	9952.8
BR4/200	0.0	64.9	N/A	35.0	11666.4
BR5/200	0.0	75.0	N/A	40.0	16105.0
BR6/200	0.0	75.0	N/A	40.0	16105.0
BR7/200	0.0	168.8	N/A	40.0	36393.8
BR8/200	0.0	28.1	N/A	40.0	6000.0
BR9/200 (Note #1)	0.0	18.8	N/A	40.0	4000.0
BR10A/400	0.0	75.0	N/A	30.0	15624.0
BR10B/200	0.0	37.5	N/A	40.0	9816.0
BR11/600	0.0	63.5	529	8.0	7940.4
BR12/600	0.0	9.1	76	8.0	1202.8
Totals		763.7	605		158630.5

NOTE #1 - Construction at this site will require remediation or a waiver because the site has been formally designated as an Installation Restoration (IR) Site. The site is in the Site Investigation Action Phase of Superfund Actions. Contamination has not been deemed serious, but confirmatory sampling is not yet complete.

4. Class 1 Space Available for Expansion.

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

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

No

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

Structures L,62,72,102,119 & 124 transmit or receive electromagnetic radiation (EMR). The open areas between these facilities occupy 1.549 acres and construction is restricted. These facilities also provide potential for additonal work with some operational time available.

Table 4.1 Class 1 Resources of NSWC, LOUISVILLE (UIC: N00197)

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance	119.572	65.383	1.549 (Note #1)	57.869
Operational	.444	.222	N/A	N/A
Training	.397	.199	N/A	N/A
R & D	.449	.225	N/A	N/A
Supply & Storage	7.753	3.876	.459 (Note #2)	3.417
Admin	4.658	2.329	N/A	2.329
Housing	8.3	4.15	N/A	N/A
Recreational	.867	.433	N/A	N/A
Navy Forestry Program	N/A	N/A	N/A	N/A
Navy Agricultural Outlease Program	N/A	N/A	N/A	N/A
Hunting/Fishing Programs	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
Total:	142.44	76.817	2.008	63.615

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

63.615 Acres.

Explain.

SEE NOTE #3 BELOW.

NOTE #1 - HERP locations at L, 62, 72 & 119 restrict construction.
NOTE #2 - Environmental constaints exist with soil conditions.
NOTE #3 - Activity is compact (142.44 acres) with multi-feeds of each utility and minimal distance for any undeveloped site to roads, utilities, etc. with less than 10% of new facility cost required for site development.

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

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

Table 5.1 Base Infrastructure Capacity & Load

	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KWH)	65,253	100,000	7,200	9,246.6
Natural Gas (CFH)	1,040,000	1,000,000	58,622	151,200
Sewage (GPD)	42,638,400	24,364,800	486,000	8,840,570
Potable Water (GPD)	4,680,000	2,160,000	486,000	972,000
Steam (PSI & lbm/Hr)	120,000 @ 100 PSIG	0	28,000	84,000
Long Term Parking	0	0	N/A	N/A
Short Term Parking	2517 slots	0	1542 slots	1955 slots

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

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

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

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

Table 5.2 Maintenance, Repair & Equipment Expenditure Data for NSWC, LOUISVILLE (UIC:N00197)

Fiscal Year	MRP ($M)	CPV ($M)	ACE ($M)
1985	2.673	171	55
1986	3.053	172	61
1987	4.323	173	66
1988	4.438	190	68
1989	4.624	193	72
1990	6.156	308 (NOTE #1)	77
1991	5.779	214	81
1992	5.952	228	83
1993	5.623	274	95
1994	6.905	292	97
1995	6.127	305	102
1996	5.842	318	106
1997	6.267	331	108

NOTE #1 - Accounting error added $100M to records in lieu of $1M for electrical project. Resubmission corrected the error for the 1991 P-164 release.

c. **Training Facilities:**

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

Type of Training Facility/CCN	School	Type of Training	FY 1993 Requirements			FY 2001 Requirements		
			A	B	C	A	B	C
Academic Instruction 315-100	PHALANX	Block 0	10	360	4320			
Academic Instruction 100-315	PHALANX	Block 1 Block 1 Differences	20 17	400 160	8000 2720	24 24	400 320	9600 3840
Academic Instruction Weapon System Lab	PHALANX	PASS Gun & Ammo Handling	12 24	40 80	480 1920	12 36	40 80	480 2880
Academic Instruction Management	PHALANX	Management	12	80	960	12	80	960

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

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

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

Type Training Facility/CCN	Total Number	Design Capacity (PN)[1]	Capacity (Student HRS/YR)
Academic Instruction 100 Block 0 Industrial 315	1	12	4320
Academic Instruction 100 Block 1 Industrial 315	1	12	4800
Academic Instruction 100 Block 1 Differences 315	1	12	1920
Academic Instruction PASS	1	12	480
Weapon System Lab Gun & Ammo Handling 315	1	12	960
Academic Instruction Management 100	1	12	480

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

NSWC, Louisville has one classroom with a capacity of 12 students multiplied by the number of hours per course.

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

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

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

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

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

TAB A

SHIP BERTHING CAPACITY

Note: Question numbers in [ ]'s are for internal BSAT purposes.

The Crane Division of the Naval Surface Warfare Center has no Ship Berthing Capacity.

SHIP BERTHING CAPACITY

1. [11.] For each Pier/Wharf at your facility list the following structural characteristics. Indicate the additional controls required if the pier is inside a Controlled Industrial Area or High Security Area. Provide the average number of days per year over the last eight years that the pier was out of service (OOS) because of maintenance, including dredging of the associated slip:

Table 11.1

Pier/ Wharf & Age[1]	CCN[2]	Moor Length (ft)	Design Dredge Depth[3] (ft) (MLLW)	Slip Width[4] (ft)	Pier Width (ft)[5]	CIA/Security Area? (Y/N)[6]	ESQD Limit[7]	# Days OOS for maint.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1]Original age and footnote a list of MILCON improvements in the past 10 years.
[2]Use NAVFAC P-80 for category code number.
[3]Comment if unable to maintain design dredge depth
[4]Water distance between adjacent finger piers.
[5]Indicate if RO/RO and/or Aircraft access.
[6]Describe the additional controls for the pier.
[7]Net explosive weight. List all ESQD waivers that are in effect with expiration date.

2. [12.] For each Pier/Wharf at your facility list the following ship support characteristics:

Table 12.1

Pier/ Wharf	OPNAV 3000.8 (Y/N)	Shore Pwr (KVA) & 4160V (KVA)	Comp. Air Press. & Capacity[1]	Potable Water (GPD)	CHT (GPD)	Oily Waste[1] (gpd)	Steam (lbm/hr & PSI)[2]	Fendering limits[3]
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1]List only permanently installed facilities.
[2]indicate if the steam is certified steam.
[3]Describe any permanent fendering arrangement limits on ship berthing.

3. [13.] For each pier/wharf listed above state today's normal loading, the maximum capacity for berthing, maximum capacity for weapons handling evolutions, and maximum capacity to conduct intermediate maintenance.

Table 13.1

Pier/Wharf	Typical Steady State Loading[1]	Ship Berthing Capacity	Ordnance Handling Pier Capacity[2]	IMA Maintenance Pier Capacity[3]
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

[1] Typical pier loading by ship class with current facility ship loading.
[2] List the maximum number of ships that can be moored to conduct ordnance handling evolutions at each pier/berth without berth shifts. Consider safety, ESQD and access limitations.
[3] List the maximum number of ships that can be serviced in maintenance availabilities at each pier without berth shifts because of crane, laydown or access limitations.

4. [14.] For each pier/wharf listed above, based on Presidential Budget 1995 budgeted infrastructure improvements in the Presidential Budget 1995 through FY 1997 and the BRAC-91 and BRAC-93 realignments, state the expected normal loading, the maximum capacity for berthing, maximum capacity for weapons handling evolutions, and maximum capacity to conduct intermediate maintenance.

Table 14.1

Pier/ Wharf	Typical Steady State Loading[1]	Ship Berthing Capacity	Ordnance Handling Pier Capacity[2]	IMA Maintenance Pier Capacity[3]
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

[1] Typical pier loading by ship class with current facility ship loading.
[2] List the maximum number of ships that can be moored to conduct ordnance handling evolutions at each pier/berth without berth shifts. Consider safety, ESQD and access limitations.
[3] List the maximum number of ships that can be serviced in maintenance availabilities at each pier without berth shifts because of crane, laydown, or access limitations.

5. [15.a.] How much pier space is required to berth and support ancillary craft (tugs, barges, floating cranes, etc.) currently at your facility? Indicate if certain piers are uniquely suited to support these craft.

None.

6. [15.b.] What is the average pier loading in ships per day due to visiting ships at your base. Indicate if it varies significantly by season.

None.

7. [15.c.] Given no funding or manning limits, what modifications or improvements would you make to the waterfront infrastructure to increase the cold iron ship berthing capacity of your installation? Provide a description , cost estimates, and additional capacity gained.

None.

8. [15.d.] Describe any unique limits or enhancements on the berthing of ships at specific piers at your base.

None.

TAB B

OPERATIONAL AIRFIELD CAPACITY

Note: Question numbers in []'s are for internal BSAT purposes.

The Crane Division of the Naval Surface Warfare Center does not have an operational airfield.

1. [1a.] For the **main airfield and each auxiliary airfield,** answer the following questions:

Airfield Name: N/A

For each runway, give its designation, length, width, load capacity, lighting configurations, and arresting gear types. For each runway list any approach obstructions or any restrictions on flight patterns.

Runway	Length (ft)	Width (ft)	Max load	Lighting				Arresting Gear Type(s)
				F	P	C	N	
N/A	N/A	N/A	N/A					N/A
N/A	N/A	N/A	N/A					N/A
N/A	N/A	N/A	N/A					N/A

F -- Full lighting (runway edge, center, and threshold)
P -- Partial lighting (less than full)
C -- Carrier deck lighting simulated
N -- No lighting

2. [1b.] Provide the **composition** (concrete, asphalt) and **load bearing capacity** of your aprons, ramps and taxiway.

Apron/ramp/taxiway Location - ID	SF	Comp.	Load Bearing Capacity	Comments
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

3. [1c.] Do you have **high speed taxiways**? Discuss number and impact on airfield operations.

None

4. [1d.] Are **all runways** with approved instrument approaches served by **hi-speed taxiways**?

None

5. [1e.] List any restrictions to **runways with approach obstructions** or any **restrictions on flight patterns.** Explain

None

6. [1f.] For the main airfield and each auxiliary and outlying field, discuss any **runway design features** that are specific to particular types of aircraft (i.e., are the airfield facilities designated primarily fixed wing jet, prop, or helo aircraft?)

None

7. [2a.] List the **number of flight operations** (take-off, landing, or approach without landing) that the main airfield and all auxiliary fields can support on an hourly basis in both VMC and IMC. Comment on the factors at each field that limit this capacity (e.g., taxiway/runway limitations, airspace, ATC restrictions, environmental restrictions).

Airfield	# Flight Ops/Hr		Comments on Limiting Factors
	IMC	VMC	
Main	N/A	N/A	N/A
Auxiliary _____	N/A	N/A	N/A
Auxiliary _____	N/A	N/A	N/A
Auxiliary _____	N/A	N/A	N/A

8. [2b.] Provide the average number of **(historical) flight operations** per month conducted at this station and the total number of days during which these operations were conducted. If data is not normally recorded, include estimates (and how derived). A flight operation is defined as a take-off, landing, or approach without a landing.

FY	Main Airfield		Auxiliary Field _____		Auxiliary Field _____		Auxiliary Field _____	
	# Ops	# Days	# Ops	# Days	# Ops.	# Days	# Ops.	# Days
1991	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1992	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. [2c.] What percent of your flight operations are Fleet Carrier Landing Practices (FCLPs)?

None

10. [2d.] Are you designated as an **authorized divert field** for any non-DoD aircraft? Explain.

N/A

11. [2d.] Is your airfield designated as a **joint use airfield** (i.e. civilian/military)? Explain.

N/A

12. [2e.] What **percentage of total operations are civilian**?

N/A

13. [2f.] Describe the major **civilian air traffic structures** (routes, terminal control areas, approaches, etc.) discuss the present and likely future impact of each on air station operations.

N/A

14. [2g.] Are there any **air traffic control constraints**/procedures that currently, or may in the future, limit air station operations? If yes, fully explain impact.

N/A

15. [4.] List all **NAVAIDS** with published approaches that support the main airfield and/or your auxiliary airfields. Note any additions/upgrades to be added between now and FY1997.

NAVAID	DESCRIPTION/LOCATION
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

16. [5a.] List all **active duty Navy/USMC squadrons/detachments** and the number of aircraft by type, model, and series (T/M/S), that will be permanently stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Squadron/Det	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

17. [5b.] Summarize average **visiting squadron/det loading** on air station operations(i.e. airwing/wing weapons deployment).

Squadron/Det Size (#A/C)	Apron Space Used	Hangar Space Assigned	Maintenance Support	Ave length of stay
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

18. [5c.] If a major percent of flight operations at your air station is from other than permanently stationed squadron/detachments, provide explanation.

N/A

19. [6a.] List all **reserve Navy/USMC squadrons/detachments** and the number of aircraft by type, model, and series (T/M/S), which will be stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Squadron/Det	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

20. [7.] List all **Station aircraft** by number, type, model, and series (T/M/S), which will be parked or stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Squadron/ Custodian	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

21. [8.] List all **DoD and non-DoD aircraft** not previously listed, by custodian, including number, type, model, and series (T/M/S) of aircraft, which will be parked or stationed/are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Service/ Agency/ Custodian	# of Aircraft (PAA)	Aircraft (T/M/S)	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

22. [9a.] List other **operational command or support units** (ie. air wing staffs, MWSG, MWSS, MACG, MASS, etc.) stationed at this installation. For each Unit, give the unit identification number/UIC, mission, and facilities required (currently being used) to support the unit (i.e. equipment parking - 2500 SF; maintenance shop-200 SF; etc.).

Support Unit Identification/ UIC	Mission	Facilities Required	Equipment Laydown Requirement (covered/ uncovered in SF)
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

23. [9b.] Due to BRAC or other realignments, what increases/decreases in operational command or support units will occur at your installation. Provide expected gains/losses by year through 2001.

N/A

24. [10a.] List all **other USN/USNR, USMC/USMCR, and other DoD or non-DoD active and SELRES units** not listed previously, that are scheduled to be stationed at this air station at the **end** of the indicated fiscal years.

Unit	Active or Reserve	FY 1994	FY 1995	FY 1997	FY 1999	FY 2001
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

25. [12b.] For each **Special Use Airspace (SUA)** or airspace-for-special use routinely used by squadrons/units assigned to your installation (regardless of location[1]), indicate how many hours per year are **required for** each user to maintain required **readiness**. Special Use Airspace includes alert areas, military operating areas (MOA), restricted areas, and warning areas which are used for air-to-air, air-to-ground, electronic (EW, ECM), low level training routes (MTRs), and other training.

[1] include RON/domestic deployment training

SUA	Location/ Distance	Types/Uses	Scheduling Authority (UIC)	Squadron/Unit	Training Requirement (types of training)	Yearly Usage Rate (Hrs)
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Remarks:

[1] include RON/domestic deployment training

26. [12c.] For each **Special Use Airspace (SUA)** or airspace-for-special-use complete the following table:

SUA	Location/ Distance	Types/Uses	Scheduling Authority (UIC)	Fiscal Year	Scheduled	Utilized[1]	Operating Limitations[2]
					# Hours	# Hours	
N/A	N/A	N/A	N/A	1991	N/A	N/A	N/A
N/A	N/A	N/A	N/A	1992	N/A	N/A	N/A
N/A	N/A	N/A	N/A	1993	N/A	N/A	N/A
N/A	N/A	N/A	N/A	1991	N/A	N/A	N/A
N/A	N/A	N/A	N/A	1992	N/A	N/A	N/A
N/A	N/A	N/A	N/A	1993	N/A	N/A	N/A

[1] For the "Utilized" values, provide reasons for hours scheduled, but not utilized (e.g. 40% cancelled due to weather; 10% cancelled for unscheduled range maintenance, etc.).
[2] Provide any comments on operating limitations.

27. [12d.] Assuming that the flight training facility is **not constrained by operational funding** (personnel support, increased overhead costs, etc.), with the present equipment, physical plant, etc. , what **additional use of airspace assets** could be realized? Provide details and assumptions for all calculations.

N/A

28. [12h.] In the event that it became necessary to increase base loading at your installation, does the **airspace** overlying and adjacent to your installation have the **capacity** to assume an additional workload? Estimate the percentage of the possible increase. Provide the basis/calculations for these estimates.

N/A

29. [17a.] Using the types (and mix) of aircraft currently stationed at your installation, project the additional number of these aircraft (maintain approximate current mix/ratio of A/C) that could be based and parked on your **current parking aprons.**
Provide two estimates:

1. Using NAVFAC P-80 standard measures
2. Using real world planning factors to accomodate a surge demand for space (maintaining safe operating procedures).

Aircraft Type	Current # of Aircraft Parked/Stationed	Maximum Additional Capacity (# of Aircraft)		Total	
		NAVFAC	Surge	NAVFAC	Surge
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Provide the **details of your calculations**, including your assumptions on the minimum separation between aircraft, parking angle, folding of aircraft wings and any obstructions that may limit the placement of aircraft on the parking apron spaces. Indicate if taxiway aprons are used in the projection.

30. [18a.] List the **hangars** at the air station. Identify by (P-80) type, year built, dimensions.

Hangar ID/#	Type I, II or (O)ther	Year Built	Hangar Deck Dimensions	Limiting Height	Current Usage	In SF			
						Adequate	Substandard	Inadequate	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how it is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. Discuss any material conditions of substandard facilities which have resulted in a C3 or C4 designation on your BASEREP.

31. [18b.] For each **hangar** provide **space allocation** information listed in table below. Indicate if OPS/ADMIN space is in a non-contiguous building, Provide subtotal for each hangar.

Hangar #/ID/Type	SQD/Mod# Assignment [1]	Ops + Admin Spaces SF/ Module	Maint Shops SF/ Module (O Level)	Hangar Deck SF/Module	A/C Line parking spaces [2,3]		
					#/ Module	SF	Elec. Pwr.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Provide which SQD/Det was assigned to the specific module at receipt of this Data Call. (i.e., VFA-15, Hgr 1, Mod C)

[2] Dedicated aircraft parking spaces per Module and total square feet (SF) of A/C line parking spaces

[3] Are there A/C line parking spaces supported by permanently installed electric power? (Y/N)

32. [18f.] List all **squadrons/detachments** normally homeported at this air station that were deployed and **not assigned** hangar/maintenance spaces at receipt of this data call.

Squadron/Detachment	#/Type Aircraft	Deployed Location
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

33. [18g.] List all **squadrons/detachments** normally homeported at this air station that were deployed and **were assigned** hangar/maintenance spaces at receipt of this data call.

Squadron/Detachment	#/Type Aircraft	Hanger Module Assignment
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

34. [18h.] Using the types (and mix) of **aircraft** currently stationed at your installation, project the maximum additional number of these aircraft (maintain approximate current mix/ratio of A/C) that could be housed and maintained in **your current hangars**. Provide two estimates:

1. Using NAVFAC P-80 standard measures
2. Using real world planning factors to accomodate a surge demand for space (maintaining safe operating procedures).

Aircraft Type	Current # of Aircraft Parked/Stationed	Maximum Additional Capacity (# of Aircraft)		Total (Current + Additional)	
		NAVFAC	Surge	NAVFAC	Surge
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Provide the **details of your calculations**, including your assumptions on the minimum separation between aircraft, folding of aircraft wings and any obstructions that may limit the placement of aircraft in the hangars.

35. [19.] Do you have any of the following **special use facilities** at the Air Station?

CCN	Type of Facility	In SF				# of Units	Year Built
		Adequate	Substandard	Inadequate	Total		
211-01	Aircraft Acoustical Enclosure	N/A	N/A	N/A	N/A	N/A	N/A
211-02	Nose Hangar	N/A	N/A	N/A	N/A	N/A	N/A
211-03	Corrosion Control Hangar	N/A	N/A	N/A	N/A	N/A	N/A
211-75	Parachute/Survival Equipment Shop	N/A	N/A	N/A	N/A	N/A	N/A
211-81	Engine Test Cell	N/A	N/A	N/A	N/A	N/A	N/A
211-88	Power Check Pad with Sound Suppression	N/A	N/A	N/A	N/A	N/A	N/A
211-89	Power Check Pad without Sound Suppression	N/A	N/A	N/A	N/A	N/A	N/A
211-96	Maintenance, Aircraft Spares Storage	N/A	N/A	N/A	N/A	N/A	N/A
116-10	Airfield Washrack Pavement	N/A	N/A	N/A	N/A	N/A	N/A
116-15	Aircraft Rinse Facility	N/A	N/A	N/A	N/A	N/A	N/A
214-30	Refueling Vehicle Shop	N/A	N/A	N/A	N/A	N/A	N/A
218-60	Aircraft Ground Support Equipment	N/A	N/A	N/A	N/A	N/A	N/A
	Other	N/A	N/A	N/A	N/A	N/A	N/A

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how it is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. Discuss any material conditions of substandard facilities which have resulted in a C3 or C4 designation on your BASEREP.

36. [21a.] For the following **aircraft support facility** category codes, provide the amount of adequate substandard, and inadequate facilities.

CCN	Facility Type	Unit of Measure	Adequate	Substandard	Inadequate	Total	Number of Units
111-20	Landing Pads	SF	N/A	N/A	N/A	N/A	N/A
121-10	Direct Fueling	OL/GM	N/A	N/A	N/A	N/A	N/A
124-30	Fuel Storage	GA	N/A	N/A	N/A	N/A	N/A
421-xx	Ammunition Storage	CF/TONS	N/A	N/A	N/A	N/A	N/A
425-xx	Open Ammunition Storage	SF	N/A	N/A	N/A	N/A	N/A
113-20	Parking Aprons	SF	N/A	N/A	N/A	N/A	N/A
113-40	Access Aprons	SF	N/A	N/A	N/A	N/A	N/A
116-56	Combat Aircraft Ordnance Loading Area	SF	N/A	N/A	N/A	N/A	N/A
	Other	N/A	N/A	N/A	N/A	N/A	N/A

In accordance with NAVFACINST 11010.44E, an inadequate facility cannot be made adequate for its present use through "economically justifiable means". For all the categories above where inadequate facilities are identified describe why the facility is inadequate; indicate how it is being used and list other possible uses; and specify the costs to remove the deficiencies that make it inadequate. Indicate current plans to remove these deficiencies and the amount of any programmed funds. Discuss any material conditions of substandard facilities which have resulted in a C3 or C4 designation on your BASEREP.

TAB C

DEPOT LEVEL MAINTENANCE CAPACITY

PART II: HEADQUARTERS (MAJOR OWNERS & OPERATORS)

1. Interservicing Candidates

1.1 Specify all depot and/or industrial workload programs, performed by any of your activities, that are possible candidates for interservicing, *both* in to and out from the activity. Provide detailed supporting data for your recommendations.

- Candidates for interservicing out of NSWC, Louisville includes that workload in the Commodity Groups: Amphibians (5) subgroup Vehicles and Ground Combat Vehicles (6) subgroups Self-Propelled & Tanks.

- Candidates for interservicing into NSWC, Louisville include workload within the following Commodity Groups: Amphibians (5), Ground Combat Vehicles (6), Ground and Shipboard Communications and Electronic Equipment (7), Tactical Vehicles (9), Software (12), and Special Interest Items (13).

NOTE: Current capabilities existing at NSWC, Louisville in support of highly complex and integrated shipboard systems, could support workload from these other commodity groups.

2. Core Requirements

2.1 Given the current programmed configuration and operation for these activities, provide the projected Core Workload, Directed workload, Core "Plus" Workload, and Workload required to be retained to meet the Secretary of the Navy's Title 10 responsibilities. Within each Fiscal Year (FY) requested, provide your response in Units of throughput (where applicable) and Direct Labor Man Hours (DLMHs) for the categories in the following Tables. Core workload includes all Core work performed for other Military Departments (please specify such work within each commodity category).

- Core workload calculations are to be performed in accordance with the Office of the Under Secretary of Defense (Logistics) (OUSD(L)) Memorandum dated 15 November 1993 (subject: "Policy for Maintaining Core Depot Maintenance Capability").

- Directed workload includes: Foreign Military Sales (FMS); Low Quantity Non-Core; Low Quantity Above Core; Best Value; Engineering Support; and Last Source of Repair. Directed workload is tabulated in Section 2.2, following.

2.1 (Con't)

- Core-Plus workload is the sum of Core workload and Directed workload.
- Title 10 workload is that portion of Core workload that must be retained within the Department of the Navy in order to meet the Secretary of the Navy's Title 10 responsibilities.

Maintenance and Industrial Activities

Activities that actually perform Depot Level Maintenance should complete PART I of this TAB. Warfare Center Headquarters (Owners & Operators) whose subordinate activities actually perform Depot Level Maintenance should complete PART II of this TAB. Depot and/or industrial workload capacity is to be reported as a function of the following categories for the period requested.

JCSG-DM: Maintenance and Industrial Activities

Commodity Groups List

1. Aircraft Airframes:
   - Rotary
   - VSTOL
   - Fixed Wing
     - Transport / Tanker / Bomber / Command and Control
     - Light Combat
     - Admin / Training
   - Other
2. Aircraft Components
   - Dynamic Components
   - Aircraft Structures
   - Hydraulic/Pneumatic
   - Instruments
   - Landing Gear
   - Aviation Ordnance
   - Avionics/Electronics
   - APUs
   - Other
3. Engines (Gas Turbine)
   - Aircraft
   - Ship
   - Tank
   - Blades / Vanes (Type 2)
4. Missiles and Missile Components
   - Strategic
   - Tactical / MLRS
5. Amphibians
   - Vehicles
   - Components (less GTE)
6. Ground Combat Vehicles
   - Self-propelled
   - Tanks
   - Towed Combat Vehicles
   - Components (less GTE)
7. Ground and Shipboard Communications and Electronic Equipment
   - Radar
   - Radio Communications
   - Wire Communications
   - Electronic Warfare
   - Navigational Aids
   - Electro-Optics / Night Vision
   - Satellite Control / Space Sensors
8. Automotive / Construction Equipment
9. Tactical Vehicles
   - Tactical Automotive Vehicles
   - Components
10. Ground General Purpose Items
    - Ground Support Equipment (except aircraft)
    - Small Arms / Personal Weapons
    - Munitions / Ordnance
    - Ground Generators
    - Other
11. Sea Systems
    - Ships
    - Weapons Systems
12. Software
    - Tactical Systems
    - Support Equipment
13. Special Interest Items
    - Bearings Refurbishment
    - Calibration (Type I)
    - TMDE
14. Other

Refer to the following notes when filling out the tables in this TAB.

Notes:

1. **"Production" equates to the number of items processed per Fiscal Year (FY), unless otherwise specified.**

2. **Base your responses for FY 1994 and previous years on executed workload, and for FY 1995 and subsequent years on workload as programmed. Unless otherwise specified, use workload mixes as programmed. In estimating projected workload capabilities, use the Activity's configuration as of completion of implementation of the BRAC-88/91/93 actions.**

3. **Use single shift operations (1-8-5) as the basis for your calculations. Report in specified units of throughput and Direct Labor Man Hours (DLMHs).**

4. **If any responses are classified, so annotate the applicable question and include those responses in a separate classified annex.**

5. **Capacity Index and Utilization Index will be calculated in accordance with the Defense Depot Maintenance Council approved update to Department of Defense Instruction (DoDInst) 4151.15H, "Depot Maintenance Capacity/Utilization Index Measurement."**

6. **The Major Owner/Operator questions will be answered by the Major Claimant/Systems Commander.**

7. **Utilize the tables provided to answer each question. Answer the questions for all of the commodity groups that are applicable to your activity. In the Aircraft Airframes and Engines (Gas Turbine) commodity groups break out the information by aircraft type, model, series or by engine type as applicable when filling out the tables.**

PART I: MAINTENANCE & INDUSTRIAL ACTIVITIES

1. Historic and Predicted Workload

1.1 Given the current configuration and operation of your activity, provide the depot/industrial level maintenance by commodity group (from the List above) that was executed in and is programmed for the Fiscal Years (FY) requested in units throughput (Tables 1.1.a and 1.1.b) and in Direct Labor Man Hours (DLMHs) (Tables 1.1.c and 1.1.d). Add additional rows as required to report all commodity types serviced at this activity.

Table 1.1.a: Historic and Predicted Depot/Industrial Workload

Commodity Type	Throughput (Units)							
	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
5. Amphibians (Vehicles)	0	0	0	0	0	0	0	4
11. Sea Systems (Weapons Systems)	3088	2970	2955	2943	3045	3249	3188	3388
Total:	3088	2970	2955	2943	3045	3249	3188	3392

Note: The number of units throughput was derived by totaling the number of units produced or establishing "equivalent units" in categories that required the following number of direct labor hours.
(1) over 10,000 DLHs
(2) 5,000 - 10,000 DLHs
(3) 1,000 - 5,000 DLHs
(4) less that 1,000 DLHs

Table 1.1.b: Historic and Predicted Depot/Industrial Workload

Commodity Type	Throughput (Units)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
5. Amphibians (Vehicles)	3	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Self-propelled)	200	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Tanks)	1	0	0	0	0	0	0	0
11. Sea Systems (Weapons Systems)	4070	6679	6244	5849	5509	5205	4911	4664
Total:	4274	6679	6244	5849	5509	5205	4911	4664

Table 1.1.c: Historic and Predicted Depot/Industrial Workload

Com. Type	Throughput (DLMHs)							
	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
5. Amphibians (Vehicles)								3400
11. Sea Systems (Weapon Systems)	1896705	1799674	1745521	1794516	2115508	2275193	2086415	1989225
Total:	1896705	1799674	1745521	1794516	2115508	2275193	2086415	1996025

Rev.

Table 1.1.d: Historic and Predicted Depot/Industrial Workload R

Commod Type	Throughput (DLMHs)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
5. Amphibians (Vehicles)	2550	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Self-propelled)	3000	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Tanks)	1000	0	0	0	0	0	0	0
11. Sea Systems (Weapons Systems)	1095720	1252604	1336133	1362391	1311468	1393451	1451456	1451456
Total:	1102270	1252604	1336133	1362391	1311468	1393451	1451456	1451456

Table 1.1.d: Historic and Predicted Depot/Industrial Workload

Commod Type	Throughput (DLMHs)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
5. Amphibians (Vehicles)	2550	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Self-propelled)	3000	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Tanks)	1000	0	0	0	0	0	0	0
11. Sea Systems (Weapons Systems)	1095720	1263204	1341933	1366691	1315568	1397151	1451456	1451456
Total:	1102270	1263204	1341933	1366691	1315568	1397151	1451456	1451456

R

1.2 For each commodity type reported in Tables 1.1.a through 1.1.d, assume (a) the current projected total depot / industrial workload remains as assigned; (b) that sufficient production demand is available to justify maximum hiring, optimum (repeat order manufacturing lead times) procurement, and maximum equipment support; and (c) no major MILCON additional to that already programmed: what is the maximum extent to which depot / industrial maintenance operations could be expanded at this activity, based on the current and future planned workload mixes, for the requested period? Please provide your response in both the absolute maximum number of units and DLMHs that could be processed at this activity by applicable commodity group. Add additional rows as necessary to accommodate all commodity types serviced at this activity.

Table 1.2.a: Maximum Potential Depot/Industrial Workload **R**

Commodity Type	Throughput (Units)						
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
11. Sea Systems (Weapons Systems)	22347	22347	22347	22347	22347	22347	22347
Total:	22347	22347	22347	22347	22347	22347	22347

1.2 For each commodity type reported in Tables 1.1.a through 1.1.d, assume (a) the current projected total depot / industrial workload remains as assigned; (b) that sufficient production demand is available to justify maximum hiring, optimum (repeat order manufacturing lead times) procurement, and maximum equipment support; and (c) no major MILCON additional to that already programmed: what is the maximum extent to which depot / industrial maintenance operations could be expanded at this activity, based on the current and future planned workload mixes, for the requested period? Please provide your response in both the absolute maximum number of units and DLMHs that could be processed at this activity by applicable commodity group. Add additional rows as necessary to accommodate all commodity types serviced at this activity.

Table 1.2.a: Maximum Potential Depot/Industrial Workload

Commodity Type	Throughput (Units)						
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
11. Sea Systems (Weapons Systems)	33986	33986	33986	33986	33986	33986	33986
Total:	33986	33986	33986	33986	33986	33986	33986

R

Table 1.2.b: Maximum Potential Depot/Industrial Workload R

Commod Type	Throughput (DLMHs)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
5. Amphibians (Vehicles)	6885	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Self-Propelled)	8100	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Tanks)	2700	0	0	0	0	0	0	0
11. Sea Systems (Weapons Systems)	2462065	2479750	2479750	2479750	2479750	2479750	2479750	2479750
Total:	2479750	2479750	2479750	2479750	2479750	2479750	2479750	2479750

Note 1: Maximum potential workload is shown in Sea Systems (Weapon Systems) Commodity because it is NSWC Louisville's area of expertise. If the workload was available, this expertise could be balanced to perform work in other Commodity groups. Examples of such work are the refurbishment of tanks and armored amphibious vehicles.

Note 2: Maximum Potential Workload is based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Table 1.2.b: Maximum Potential Depot/Industrial Workload

Commod Type	Throughput (DLMHs)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
5. Amphibians (Vehicles)	6885	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Self-Propelled)	8100	0	0	0	0	0	0	0
6. Ground Combat Vehicles (Tanks)	2700	0	0	0	0	0	0	0
11. Sea Systems (Weapons Systems)	3753665	3771350	3771350	3771350	3771350	3771350	3771350	3771350
Total:	3771350	3771350	3771350	3771350	3771350	3771350	3771350	3771350

Note: Maximum potential workload is shown in Sea Systems (Weapon Systems) Commodity because it is NSWC Louisville's area of expertise. If the workload was available, this expertise could be balanced to perform work in other Commodity groups. Examples of such work are the refurbishment of tanks and armored amphibious vehicles.

1.3 Provide details of your calculations including assumptions on additional space utilized, major equipment required, production rates, and constraints that limit increased workload by commodity group at this activity.

Additional space, major equipment and production rates are not an issue, the **only** constraint on meeting increased workload would be skilled personnel. **Previous consolidations** have resulted in NSWC, Louisville being the **only depot facility remaining to support the Naval Surface Weapon Systems.**

Historically, **Material Condition Reviews** conducted on the Naval Surface Weapon Systems within the Sea Systems Commodity Group have shown that on the average, these Weapon Systems are returned to the depot every 7 years.

The number of Naval Surface Weapon Systems to be supported will change, but the requirement for these systems will continue to exist.

1.4 Given an environment unconstrained by funds or manning, what Industrial Plant Equipment (IPE) would you change (add, delete, or modify) to increase your activity's capability to perform workload in each of the applicable commodity groups? Describe quantitatively how the changes above would increase your activity's depot/industrial level maintenance capabilities. What would the associated costs be? What would be the payback period and return on investment?

The unconstrained investment in IPE would increase the capabilty to perform workload in the following Commodity Groups:

Group I:

11. Sea Systems
    Weapons Systems: **No IPE changes required.**

Group II:

4. Missiles and Missile Components: **See the list below**
5. Anphibians: **See the list below**
6. Ground Combat Vehicles: **See the list below**
11. Sea Systems
    Ships: **See the list below**
13. Special Interest Items
    Bearings Refurbishment: **See the list below**

EQUIPMENT
Add: $122M
Machining Centers
Robotics
Delete: $ 18M
Obsolete Equipment
Modify: $ 49M
Convert Machines to CNC (Programmed vice Manual)
Add multiple work stations/shuttle pallets
Relocate increasing cells/focused factories
Add automatic tool changers
Automate/integrate entire production facility
- Reverse Engineering
- Product Engineering
- Repair/Overhaul/Manufacturing (Shop Floor)

PERSONNEL
1995 - Staff existing equipment/facilities to maximum capacity
(1 shift x 8 hours x 5 days)
Maximum use of relocations and temporaries.

1996-2001 - Significant decline in DLMHs through increased automation and efficiency

PAYBACK PERIOD: 3.6 Years

RETURN ON INVESTMENT:
Percentage Basis: 36.3%
(-1 to +1) : .7

1.5 Are there any environmental, legal, or otherwise limiting factors that inhibit further the development of depot/industrial level workload and this activity (AICUZ encroachment, pollutant discharge, etc.)?

There are **no** environmental, legal or otherwise limiting factors that would inhibit the development of depot/industrial level workload at this activity.

R

2. Workload Summary

2.1 Enter the information from the Predicted and Potential Workload sections of the previous question into the table below and calculate the variance between projected and potential workloads. Again, clearly identify each commodity and include all commodities serviced at this activity.

Table 2.1.a: PREDICTED WORKLOAD VARIANCE FOR FY 1995 **R**

FY 1995 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	6679	22347	15668	1252604	2479750	1227146
Total	N / A	N / A	N / A	1252604	2479750	1227146

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Rev.

2. Workload Summary

2.1 Enter the information from the Predicted and Potential Workload sections of the previous question into the table below and calculate the variance between projected and potential workloads. Again, clearly identify each commodity and include all commodities serviced at this activity.

Table 2.1.a: PREDICTED WORKLOAD VARIANCE FOR FY 1995 R

FY 1995 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	6679	33986	27307	1252604	3771350	2518746
Total	N / A	N / A	N / A	1252604	3771350	2518746

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

2. Workload Summary

2.1 Enter the information from the Predicted and Potential Workload sections of the previous question into the table below and calculate the variance between projected and potential workloads. Again, clearly identify each commodity and include all commodities serviced at this activity.

Table 2.1.a: PREDICTED WORKLOAD VARIANCE FOR FY 1995

FY 1995 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	6679	33986	27307	1263204	3771350	2508146
Total	N / A	N / A	N / A	1263204	3771350	2508146

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

R

Table 2.1.b: PREDICTED WORKLOAD VARIANCE FOR FY 1996 **R**

FY 1996 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	6244	22347	16103	1336133	2479750	1143617
Total	N / A	N / A	N / A	1336133	2479750	1143617

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Rev.

Table 2.1.b: PREDICTED WORKLOAD VARIANCE FOR FY 1996 **R**

FY 1996 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	6244	33986	27742	1336133	3771350	2435217
Total	N / A	N / A	N / A	1336133	3771350	2435217

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

Table 2.1.b: PREDICTED WORKLOAD VARIANCE FOR FY 1996

FY 1996 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	6244	33986	27742	1341933	3771350	2429417
Total	N / A	N / A	N / A	1341933	3771350	2429417

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

R

Table 2.1.c: PREDICTED WORKLOAD VARIANCE FOR FY 1997 R

FY 1997 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5849	22347	16498	1362391	2479750	1117359
Total	N / A	N / A	N / A	1362391	2479750	1117359

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Rev.

Table 2.1.c: PREDICTED WORKLOAD VARIANCE FOR FY 1997 **R**

FY 1997 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5849	33986	28137	1362391	3771350	2408959
Total	N / A	N / A	N / A	1362391	3771350	2408959

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and euqpment but assumes unlimited personnel ceilings.

Table 2.1.c: PREDICTED WORKLOAD VARIANCE FOR FY 1997

FY 1997 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5849	33986	28137	1366691	3771350	2404659
Total	N / A	N / A	N / A	1366691	3771350	2404659

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and euqpment but assumes unlimited personnel ceilings.

R

Table 2.1.d: PREDICTED WORKLOAD VARIANCE FOR FY 1998 R

FY 1998 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5509	22347	16838	1311468	2479750	1168282
Total	N / A	N / A	N / A	1311468	2479750	1168282

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Rev.

Table 2.1.d: PREDICTED WORKLOAD VARIANCE FOR FY 1998 **R**

FY 1998 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5509	33986	28477	1311468	3771350	2459882
Total	N / A	N / A	N / A	1311468	3771350	2459882

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

Table 2.1.d: PREDICTED WORKLOAD VARIANCE FOR FY 1998

FY 1998 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5509	33986	28477	1315568	3771350	2455782
Total	N / A	N / A	N / A	1315568	3771350	2455782

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

R

Table 2.1.e: PREDICTED WORKLOAD VARIANCE FOR FY 1999 **R**

FY 1999 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5205	22347	17142	1393451	2479750	1086299
Total	N / A	N / A	N / A	1393451	2479750	1086299

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Rev.

Table 2.1.e: PREDICTED WORKLOAD VARIANCE FOR FY 1999 R

FY 1999 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5205	33986	28781	1393451	3771350	2377899
Total	N / A	N / A	N / A	1393451	3771350	2377899

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

Table 2.1.e: PREDICTED WORKLOAD VARIANCE FOR FY 1999

FY 1999 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	5205	33986	28781	1397151	3771350	2374199
Total	N / A	N / A	N / A	1397151	3771350	2374199

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

R

Table 2.1.f: PREDICTED WORKLOAD VARIANCE FOR FY 2000 **R**

FY 2000 **Commodity Type**	**Product (units)**			**DLMHs**		
	Predicted Workload	**Potential Workload**	**Variance (Note 2)**	**Predicted Workload**	**Potential Workload**	**Variance (Note 2)**
11. Sea Systems (Weapons Systems)	4911	22347	17436	1451456	2479750	1028294
Total	N / A	N / A	N / A	1451456	2479750	1028294

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Table 2.1.f: PREDICTED WORKLOAD VARIANCE FOR FY 2000

FY 2000 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	4911	33986	29075	1451456	3771350	2319894
Total	N / A	N / A	N / A	1451456	3771350	2319894

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

R

Table 2.1.g: PREDICTED WORKLOAD VARIANCE FOR FY 2001 R

FY 2001 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	4664	22347	17683	1451456	2479750	1028294
Total	N / A	N / A	N / A	1451456	2479750	1028294

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variances (Product (units)) and DLMHs) are based on existing facilities and equipment but assumes unlimited personnel ceilings. Potential workload (Product (units) and DLMHs) is constrained by the 1-shift, 8-hour, 5-day work schedule and resultant bottlenecks (due to unique equipments/machines that support workload). Maximum 1st shift potential capacity could be increased 13% with the addition of selected 2nd shift operations to relieve bottlenecks.

Table 2.1.g: PREDICTED WORKLOAD VARIANCE FOR FY 2001

FY 2001 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance (Note 2)	Predicted Workload	Potential Workload	Variance (Note 2)
11. Sea Systems (Weapons Systems)	4664	33986	29322	1451456	3771350	2319894
Total	N / A	N / A	N / A	1451456	3771350	2319894

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

Note 2: Variance Product (units) and DLMHs are based on existing facilities and equipment but assumes unlimited personnel ceilings.

Table 2.1.a: Workload Requirements FY 1993

FY 1993 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
5. Amphibians (Vehicles)		3400	3400	
11. Sea Systems (Weapons Systems)	864843	370431	1235274	864843
Total:	864843	373831	1238674	864843

Note: The hours shown reflect only work performed by the Naval Surface Warfare Center. Naval Surface Warfare Center does not have visibility into the total (i.e., public and private) depot maintenance requirement for Surface Warfare systems.

Table 2.1.b: Workload Requirements FY 1994

FY 1994	Core Workload (DLMHs)			
Commodity Type	**Core Workload**	**Directed Workload**	**Core "Plus" Workload**	**Title 10 Workload**
5. Amphibians (Vehicles)		2550	2550	
6. Ground Combat Vehicles (Self-Propelled)		3000	3000	
6. Ground Combat Vehicles (Tanks)		1000	1000	
11. Sea Systems (Weapons Systems)	895699	221295	1116994	895699
Total:	895699	227845	1123544	895699

R

Table 2.1.c: Workload Requirements FY 1995 R

FY 1995 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	988163	264441	1252604	988163
Total:	988163	264441	1252604	988163

Table 2.1.c: Workload Requirements FY 1995

FY 1995 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1038288	264441	1286529	1038288
Total:	1038288	264441	1286529	1038288

R

Table 2.1.d: Workload Requirements FY 1996 R

FY 1996 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1139243	196890	1336133	1139243
Total:	1139243	196890	1336133	1139243

Table 2.1.d: Workload Requirements FY 1996

FY 1996	Core Workload (DLMHs)			
Commodity Type	**Core Workload**	**Directed Workload**	**Core "Plus" Workload**	**Title 10 Workload**
11. Sea Systems (Weapons Systems)	1193563	196890	1374253	1193563
Total:	1193563	196890	1374253	1193563

R

Table 2.1.e: Workload Requirements FY 1997 R

FY 1997 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1190808	171583	1362391	1190808
Total:	1190808	171583	1362391	1190808

Table 2.1.e: Workload Requirements FY 1997

FY 1997 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1245264	171583	1400647	1245264
Total:	1245264	171583	1400647	1245264

R

Table 2.1.f: Workload Requirements FY 1998 R

FY 1998 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1145674	165794	1311468	1145674
Total:	1145674	165794	1311468	1145674

Table 2.1.f: Workload Requirements FY 1998

FY 1998 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1199539	165794	1349133	1199539
Total:	1199539	165794	1349133	1199539

R

Table 2.1.g: Workload Requirements FY 1999 R

FY 1999 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1228240	165211	1393451	1228240
Total:	1228240	165211	1393451	1228240

Table 2.1.g: Workload Requirements FY 1999

FY 1999 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1281152	165211	1430163	1281152
Total:	1281152	165211	1430163	1281152

R

Table 2.1.h: Workload Requirements FY 2000 R

FY 2000 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1294608	156848	1451456	1294608
Total:	1294608	156848	1451456	1294608

Table 2.1.h: Workload Requirements FY 2000

FY 2000 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1359279	156848	1499927	1359279
Total:	1359279	156848	1499927	1359279

R

Table 2.1.i: Workload Requirements FY 2001 R

FY 2001 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1294960	156496	1451456	1294960
Total:	1294960	156496	1451456	1294960

Table 2.1.i: Workload Requirements FY 2001

FY 2001 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
11. Sea Systems (Weapons Systems)	1343833	156496	1484129	1343833
Total:	1343833	156496	1484129	1343833

2.2 Given the current programmed configuration and operation of the NADEPs, provide the projected Directed Workload. Within each Fiscal Year (FY) requested, provide your response in units throughput (where available) and Direct Labor Man Hours (DLMHs) for the categories requested.

• Foreign Military Sales (FMS) include airframe, engine and component maintenance and manufacturing support.

• Modifications (Mods) include *only those modifications* performed concurrently with scheduled depot level work packages constituting Core workload.

• Low Quantity Non-Core (LQNC) is that Non-Core workload with insufficient programmed quantity for competition. This category also includes above threshold Core workload for weapons systems which have a total projected workload greater than the computed core quantity (above core workload).

• Best Value (BV) includes items that have been offered for maintenance under competitive rules and no offerer has provided a bid that is equal to or better than the value provided by a current organic source.

• Engineering Support (Engr) consists of Engineering Support to field, modify, operate, and maintain aviation weapon systems (i.e. RCM analysis, defining maintenance intervals, developing maintenance concepts, modification management, industrial support, investigations, bulletins and flight safety, and environmental issues).

• Last Source of Repair (LSOR) comprises Non-Core workload which has been offered for maintenance under competitive rules and no offerer has provided a bid, and for which a workload requirement exists and the organic depot is the only remaining source of repair.

Table 2.2.a: Directed Workloads - FY 1993

FY 1993 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
5. Amphibians (Vehicles)				4			4
6. Ground Combat Vehicles (Self-Propelled)							0
6. Ground Combat Vehicles (Tanks)							0
11. Sea Systems (Weapons Systems)	257			421		36	714
FY 1993 Total:	257		0	425		36	718

Table 2.2.b: Directed Workloads - FY 1994

FY 1994 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
5. Amphibians (Vehicles)				3			3
6. Ground Combat Vehicles (Self-Propelled)				200			200
6. Ground Combat Vehicles (Tanks)				1			1
11. Sea Systems (Weapon Systems)	390			313		29	732
FY 1994 Total:	390	0	0	517		29	936

Table 2.2.c: Directed Workloads - FY 1995

FY 1995 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
5. Amphibians (Vehicles)							0
6. Ground Combat Vehicles (Self-Propelled)							0
6. Ground Combat Vehicles (Tanks)							0
11. Sea Systems (Weapons Systems)	338			352		32	722
FY 1995 Total:	338	0	0	352	0	32	722

Table 2.2.d: Directed Workloads - FY 1996

FY 1996 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
11. Sea Systems (Weapons Systems)	189			333		32	554
FY 1996 Total:	189	0	0	333	0	32	554

Table 2.2.e: Directed Workloads - FY 1997

FY 1997 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
11. Sea Systems (Weapons Systems)	190			305		32	527
FY 1997 Total:	190	0	0	305	0	32	527

Table 2.2.f: Directed Workloads - FY 1998

FY 1993 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
11. Sea Systems (Weapons Systems)	189	0	0	286	0	32	507
FY 1998 Total:	189	0	0	286	0	32	507

Table 2.2.g: Directed Workloads - FY 1999

FY 1999 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
11. Sea Systems (Weapons Systems)	189	0	0	266	0	32	487
FY 1999 Total:	189	0	0	266	0	32	487

Table 2.2.h: Directed Workloads - FY 2000

FY 2000 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
11. Sea Systems (Weapons Systems)	188	0	0	248	0	32	468
FY 2000 Total:	188	0	0	248	0	32	468

Table 2.2.i: Directed Workloads - FY 2001

FY 2001 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
11. Sea Systems (Weapons Systems)	188	0	0	232	0	32	452
FY 2001 Total:	188	0	0	232	0	32	452

3. Organization

3.1 Can the depot/industrial level workload be transferred to other sources such as other Navy activities, interservice to other DoD entities, or outsourced to commercial activities? Identify all applicable considerations to your recommendations.

No, because **previous consolidations** have resulted in NSWC, Louisville being the **only depot facility remaining within DoD** to provide organic support of Naval Surface Weapon Systems. Our considerations are based on NSWC, Louisville's ability to satisfy the Navy's **Consolidated Navy Imperatives** as follows:

ACQUISITION/CONTRACTING IMPERATIVES

DON must retain its ability to be a **"smart buyer"**. NSWC, Louisville provides sufficient capacity to control or safely validate all aspects of a weapon systems life cycle, including maintaining: (a) sufficient capability to provide the in-house technical authority to translate military requirements into technical specifications; (b) in-house capability to ensure suppliers perform to contract requirements and products will meet operational requirements; and (c) the acquisition, contract, financial management expertise that is required to perform inherent government functions of the acquisition and life cycle support process.

T&E/TESTING/RANGES

DON requires a scientific development and mobilization base, and must maintain an in-house ability, which is available at NSWC, Louisville, to define the technology, develop and support essential capabilities, including highly classified capabilities required to counter emerging threats in the underwater, littoral, and space battlefield.

NSWC, Louisville is a consolidated **"full spectrum" life cycle management** facility that is a critical/high value facility, which provides the most adaptive, affordable and effective technical support structure for Naval Surface Weapons Systems.

DEPOT/INDUSTRIAL/MAINTENANCE/ENGINEERING

DON's sea based foward presence missions require a three-tiered maintenance and technical support system with sufficient organic depot capability: (a) to support a ready and sustainable force: (b) to safely operate and meet surge mobilization requirements: (c) to selectivly fabricate, modify, or repair weapons systems components central to readiness as a means to control risks of supplier failure or situations where sources cannot be reached in time or at reasonable cost: (d) control access and disassembly of its weapons systems to acess in-service industrial conditions and support sound decisions of saftey of operations, economic maintenance practice and service life: and (e) execute maintenance and related training, to the maximum extent possible.

NSWC, Louisville is the repository of technical knowledge for Naval Surface Weapons Systems and operating environment for the integration and safe operation of Naval weapons.

LOGISTICS

NSWC, Louisville provides a dedicated, strategically located capability for Integrated Logistics Support, capable of preparing, processing, distributing and maintaining all facets of Naval active and Reserve forces and to support peacetime operations and wartime mobilization.

READINESS

NSWC, Louisville is a consolidated facility and the **only remaining** engineering/depot/technical center for Naval Surface Weapons Systems.

DON must maintain required **critical and unique facilities** and capabilities which are not available elsewhere and could **only be replicated at great cost or not at all.**

TAB D

ORDNANCE STORAGE CAPACITY

ORDNANCE STORAGE CAPACITY

Please answer the following questions if your activity performs any stowage or maintenance on any of the following ordnance commodities types:

ORDNANCE COMMODITY TYPES		
Mines	Expendables	LOE: Rockets
Torpedoes	INERT	LOE: Bombs
Air Launched Threat	CADS/PADS	LOE: Gun Ammo (20mm-16")
Surface Launched Threat	Strategic Nuclear	LOE: Small Arms (up to 50 cal.)
Other Threat	Tactical Nuclear	LOE: Pyro/Demo Grenades/Mortars/Projectiles

1. Ordnance Stowage and Support

1.1 Provide present and predicted inventories (coordinate with inventory control manager) and maximum rated capability of all stowage facilities at each weapons storage location controlled by this activity. In predicting the out year facility utilization, distribute overall ordnance compliment to the most likely configuration. The maximum rated capability is also an out year projection taking into account any known or programmed upgrades that may increase current stowage capacity. When listing stowage facilities, group by location (e.g. main base, outlying field, special area).

Table 1.1: **Total Facility Ordnance Stowage Summary**

Facility Number	PRESENT INVENTORY		PREDICTED INVENTORY FY 2001		MAXIMUM RATED CAPABILITY	
	TONS	SQ FT	TONS	SQ FT	TONS	SQ FT
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	N/A	N/A	N/A	N/A	N/A	N/A

1.2 For each Stowage facility identified in question 1.1 above, identify the type of facility (specify if "igloo", "box", etc.). Identify the type of ordnance commodity (from the list above) which are currently stowed in that facility and all other ordnance types which, given existing restrictions, could be physically accommodated in that stowage facility. Specify below if such additional accommodation would require a modification of the facility (e.g. enhanced environmental controls, ESQD waiver).

- Identify the reason(s) for which this ordnance is stored at your facility from the following list: own activity use (training); own activity use (operational stock); Receipt/Segregation/ Stowage/Issue (RSSI); transhipment/awaiting issue; deep stow (war reserve); deep stow (awaiting Demil); other. Explain each "other" entry in the space provided, including ordnance stowed which is not a DON asset.

Table 1.2: **Total Facility Ordnance Stowage Summary**

Facility Number/Type	Currently Stowed Commodity Type(s)	Reason for Stowage at your Activity	Commodity Type(s) Which Can Be Stowed
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Additional comments:

1.3 Identify the rated category, rated NEW and status of ESQD arc for each stowage facility listed above.

Table 1.3: **Facility Rated Status**

Facility Number / Type	Hazard Rating (1.1-1.4)	Rated NEW	ESQD Arc		
			Established (Y / N)	Waiver (Y / N)	Waiver Expiration Date
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

1.4 Identify any restrictions which prevent maximum utilization of your facilities. If restrictions are based on facility conditions, specify reason, the cost to correct the deficiency, and identify any programmed projects that will correct the deficiency and/or increase your capability.

N/A

1.5 Identify if your activity performs any of the following functions on any of the ordnance commodities previously listed. Technical support includes planning, financial, administrative, process engineering and SOP support. Within each related function identify each ordnance commodity type for which you provide these services and the total Direct Labor Man Hours (DLMHs) expended (FY 1994); identify only those DLMHs expended by personnel under your command.

Table 1.5: **Related Ordnance Support**

Related Functions	Performed? (Y / N)	Type of Commodity	DLMHs
Maintenance (specify level)	N/A	N/A	N/A
Testing	N/A	N/A	N/A
Manufacturing	N/A	N/A	N/A
Outload	N/A	N/A	N/A
Technical Support	N/A	N/A	N/A

ACTIVITY CERTIFIED: NSWC CRANE DIV, LOUISVILLE
DATA CALL #4

JL
SEA 09X
5/12/94

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

NEXT ECHELON LEVEL (if applicable)

S. HOWARD
NAME (Please type or print

Signature

COMMANDER
Title

6 MAY, 1994
Date

CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
Activity

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

NEXT ECHELON LEVEL (if applicable)

RADM (SEL) D.P. SARGENT, JR.
NAME (Please type of print

Signature

COMMANDER
Title

5/11/94
Date

NAVAL SURFACE WARFARE CENTER
Activity

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

MAJOR CLAIMANT LEVEL

G. R. STERNER
NAME (Please type or print

Signature

Commander
Naval Sea Systems Command
Title

5-13-94
Date

Activity

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

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

J. B. Greene, Jr.
NAME (Please type of print

Signature

Acting
Title

23 May 1994
Date

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

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

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

R.W. GILBERT
NAME (Please type of print)

Signature

COMMANDING OFFICER
Title

6 MAY, 1994
Date

CRANE DIVISION
NSWC, LOUISVILLE
Activity

pg. C6, C11, C12, C13, C14, C15

DATA CALL #4
LOUISVILLE SITE
3

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

NEXT ECHELON LEVEL (if applicable)

J. M. CARNEY
NAME (Please type or print)

COMMANDER
Title

CRANE DIVISION, NSWC
Activity

Signature

9/6/94
Date

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. Sargent, Jr.
NAME (Please type or print)

Commander
Title

Naval Surface Warfare Center
Activity

Signature

9/7/94
Date

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
Title Commander
Naval Sea Systems Command

Activity

Signature

9-9-94
Date

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

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

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

ACTING
Title

Signature

14 SEP 1994
Date

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

JON R. CUMMINGS
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

1 September, 1994
Date

NAVSURFWARCEN ORDSTA
Activity

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

195

NEXT ECHELON LEVEL (if applicable)

R pg. 7, 8, 11, 12, 13, 14, 15, 16, 17 + Ab C

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

9/16/94
Date

Crane 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)

DR. IRA M. BLATSTEIN
NAME (Please type or print)

Signature

TECHNICAL DIRECTOR
Title

10/4/94
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

G. R. STERNER
Commander
Naval Sea Systems Command
Title

10-4-94
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)

P.W. DRENNON
NAME (Please type or print)

Signature

ACTING
Title

12 OCT 1994
Date

JL
SEA 04X
10/4/94

DATA CALL #~~14~~ 4
CRANE DIV.
LOUISVILLE SITE

BRAC-95 CERTIFICATION

Reference: SEVNAVNOTE 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 certificaiton 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 complet to the best of my knowledge and belief.

ACTIVITY COMMANDER

JON R. CUMMINGS
NAME (Please type or print)

Signature

COMMANDING OFFICER
Title

9/15/94
Date

NAVSURFWARCEN ORDSTA
Activity

1. This certification is submitted for changes to Data Call #4, Questions 1.2 and 2.1. The reason for these changes are because the 1-8-5 rule for calculating capacity was not followed by all Technical Capability (TC) leaders. The figures have been corrected to remove 2nd and 3rd shift hours.

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

R

NEXT ECHELON LEVEL (if applicable)

195

TAB C

Pg 22-28

J. M. CARNEY
NAME (Please type or print)

Signature

Commander
Title

10/24/94
Date

Crane 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)

Dr. Ira M. Blatstein
NAME (Please type or print)

Signature

Technical Director
Title

10/26/94
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

G. R. STERNER
Title
Commander
Naval Sea Systems Command

10/26/94
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

10/27/94
Date

DATA CALL # 4
BSAT CLARIFICATION
LOUISVILLE

BRAC-95 CERTIFICATION

Reference: SEVNAVNOTE 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 certificaiton 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 complet to the best of my knowledge and belief.

ACTIVITY COMMANDER

JON R. CUMMINGS
NAME (Please type or print)

Jon R Cummings
Signature

COMMANDING OFFICER
Title

10/24/94
Date

NAVSURFWARCEN ORDSTA
Activity

1. This certification pertains to the revision on Data Call #4 as requested on 21 October 1994.

2. In order to make the programmed workload equal to the sum of Core Workload and all Above Core Workload, per guidance provided, Missile Launcher work was eliminated from the Core Workload. The rationale for this is that ships having these Missile Launchers are likely to be decommissioned thus eliminating these systems from the Klugh Scenario.