3-20-SPA-0219

DCN 789

66001

NCCOSC RDTE DIV
COMSPANAVWARCOM
Tech Centers/Labs
TECHNICAL CENTERS/LABORATORIES

219

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:	**Naval Command, Control and Ocean Surveillance Center RDT&E Division, San Diego**
UIC:	**N66001**
Major Claimant:	**Space And Naval Warfare Systems Command, Washington DC**

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.

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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:	**$54,284**

Source of Data (1.a. Salary Rate): DAVE SMITH - CODE 0211

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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			
San Diego	**CA**	**178**	**2,940**	**100**	**14**	**23**

3118= 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:

San Diego County

Source of Data (1.b. 1) & 2) Residence Data): ART SENHEN - CODE 0384, JOHN BARHOUM - CODE 0242, AND TENANT ACTIVITIES

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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)
San Diego	San Diego	Within City Limits
Chula Vista	San Diego	14
Escondido	San Diego	30
Oceanside	San Diego	35
Tijuana	Baja, Mexico	28

Source of Data (1.c. Metro Areas): SAN DIEGO CHAMBER OF COMMERCE ECONOMIC BULLETIN, POPULATION AS OF 1 JANUARY 1994

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	1	0.03 %
20 - 24 Years	7	0.24 %
25 - 34 Years	439	14.93 %
35 - 44 Years	801	27.24 %
45 - 54 Years	1145	38.95 %
55 - 64 Years	498	16.94 %
65 or Older	49	1.67 %
TOTAL	2940	100.00 %

Source of Data (1.d.) Age Data): JOHN BARHOUM - CODE 0242 DEFENSE CIVILIAN PERSONNEL DATA SYSTEM (DCPDS)

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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	1	0.03 %
9th through 11th Grade	14	0.48 %
12th Grade or High School Equivalency	489	16.63 %
1-3 Years of College	461	15.68 %
4 Years of College (Bachelors Degree)	936	31.84 %
5 or More Years of College (Graduate Work)	1039	35.34 %
TOTAL	2940	100.00 %

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.)	**35**
Associate Degree	**192**
Bachelor Degree	**1026**
Masters Degree	**633**
Doctorate	**246**

Source of Data (1.e.1) and 2) Education Level Data): JOHN BARHOUM-CODE 0242 DEFENSE CIVILIAN PERSONNEL DATA SYSTEM (DCPDS)

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.**

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Industry	SIC Codes	No. of Civilians	% of Civilians
1. Agriculture, Forestry & Fishing	01-09		
2. Construction (includes facility maintenance and repair)	15-17	**6**	**0.20 %**
3. Manufacturing (includes Intermediate and Depot level maintenance)	20-39		
3a. Fabricated Metal Products (include ordnance, ammo, etc.)	34	**79**	**2.69 %**
3b. Aircraft (includes engines and missiles)	3721 et al		
3c. Ships	3731		
3d. Other Transportation (includes ground vehicles)	various		
3e. Other Manufacturing not included in 3a. through 3d.	various	**30**	**1.02 %**
Sub-Total 3a. through 3e.	20-39	**109**	**3.71 %**
4. Transportation/Communications/Utilities	40-49		
4a. Railroad Transportation	40		
4b. Motor Freight Transportation & Warehousing (includes supply services)	42	**29**	**0.99 %**
4c. Water Transportation (includes organizational level maintenance)	44	**3**	**0.10 %**
4d. Air Transportation (includes organizational level maintenance)	45		
4e. Other Transportation Services (includes organizational level maintenance)	47	**1**	**0.03 %**
4f. Communications	48	**11**	**0.37 %**

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Industry	SIC Codes	No. of Civilians	% of Civilians
4g. Utilities	49	**1**	**0.03 %**
Sub-Total 4a. through 4g.	40-49	**45**	**1.52 %**
5. Services	70-89		
5a. Lodging Services	70		
5b. Personal Services (includes laundry and funeral services)	72		
5c. Business Services (includes mail, security guards, pest control, photography, janitorial and ADP services)	73	**326**	**11.09 %**
5d. Automotive Repair and Services	75		
5e. Other Misc. Repair Services	76	**6**	**0.20 %**
5f. Motion Pictures	78	**2**	**0.07 %**
5g. Amusement and Recreation Services	79	**0**	**0.00 %**
5h. Health Services	80	**2**	**0.07 %**
5i. Legal Services	81	**11**	**0.37 %**
5j. Educational Services	82	**1**	**0.03 %**
5k. Social Services	83	**19**	**0.65 %**
5l. Museums	84		
5m. Engineering, Accounting, Research & Related Services (includes RDT&E, ISE, etc.)	87	**2255**	**76.70 %**
5n. Other Misc. Services	89	**27**	**0.92 %**
Sub-Total 5a. through 5n.:	70-89	**2649**	**90.10 %**
6. Public Administration	91-97		

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Industry	SIC Codes	No. of Civilians	% of Civilians
6a. Executive and General Government, Except Finance	91	**39**	**1.33 %**
6b. Justice, Public Order & Safety (includes police, firefighting and emergency management)	92	**8**	**0.27 %**
6c. Public Finance	93	**79**	**2.69 %**
6d. Environmental Quality and Housing Programs	95	**5**	**0.17 %**
Sub-Total 6a. through 6d.		**131**	**4.46 %**
TOTAL		**2940**	**100. %**

Source of Data (1.f.) Classification By Industry Data): JOHN BARHOUM-CODE 0242, DEFENSE CIVILIAN PERSONNEL DATA SYSTEM (DCPDS)

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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.**

Occupation	Number of Civilian Employees	Percent of Civilian Employees
1. Executive, Administrative and Management	**288**	**9.80 %**
2. Professional Specialty		
2a. Engineers	**823**	**27.99 %**
2b. Architects and Surveyors	**2**	**0.07 %**
2c. Computer, Mathematical & Operations Research	**367**	**12.48 %**
2d. Life Scientists	**40**	**1.36 %**
2e. Physical Scientists	**207**	**7.04 %**
2f. Lawyers and Judges	**7**	**0.24 %**
2g. Social Scientists & Urban Planners	**100**	**3.40 %**
2h. Social & Recreation Workers		
2i. Religious Workers		
2j. Teachers, Librarians & Counselors	**12**	**0.41 %**
2k. Health Diagnosing Practitioners (Doctors)	**2**	**0.07 %**

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Occupation	Number of Civilian Employees	Percent of Civilian Employees
2l. Health Assessment & Treating(Nurses, Therapists, Pharmacists, Nutritionists, etc.)		
2m. Communications	26	0.88 %
2n. Visual Arts	28	0.95 %
Sub-Total 2a. through 2n.:	**1614**	**54.89 %**
3. Technicians and Related Support		
3a. Health Technologists and Technicians	16	0.54 %
3b. Other Technologists	433	14.73 %
Sub-Total 3a. and 3b.:	**449**	**15.27 %**
4. Administrative Support & Clerical	**441**	**15.00 %**
5. Services		
5a. Protective Services (includes guards, firefighters, police)	1	0.03 %
5b. Food Preparation & Service		
5c. Dental/Medical Assistants/Aides		
5d. Personal Service & Building & Grounds Services (includes janitorial, grounds maintenance, child care workers)		
Sub-Total 5a. through 5d.	**1**	**0.03 %**
6. Agricultural, Forestry & Fishing		
7. Mechanics, Installers and Repairers	**39**	**1.33 %**
8. Construction Trades	**70**	**2.38 %**
9. Production Occupations	**15**	**0.51 %**
10. Transportation & Material Moving	**6**	**0.20 %**

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Occupation	Number of Civilian Employees	Percent of Civilian Employees
11. Handlers, Equipment Cleaners, Helpers and Laborers (not included elsewhere)	**17**	**0.58 %**
TOTAL	**2940**	**100 %**

Source of Data (1.g.) Classification By Occupation Data): JOHN BARHOUM - CODE 0242, DEFENSE CIVILIAN PERSONNEL DATA SYSTEM (DCPS)

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.

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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:	**65.17 %**
2. Percentage of Military Spouses Who Work Outside of the Home:	**62.93 %**
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:	**16.44 %**
3b. Employed "On-Base" - Non-Appropriated Fund:	**4.11 %**
3c. Employed "Off-Base" - Federal Employment:	**4.11 %**
3d. Employed "Off-Base" - Other Than Federal Employment	**75.34 %**

Source of Data (1.h.) Spouse Employment Data): LT GARY JANAC - CODE 0319

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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.

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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	B	B
Public Transportation - Buses/Subways	A	A	A
Public Transportation - Rail	A	A	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.

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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.

Source of Data (2.a. 1) & 2) - Local Community Table): DICK POEHLING - CODE 0203

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	A	A	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

Category	20% Increase	50% Increase	100% Increase
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.
Not Applicable

Source of Data (2.b. 1) & 2) - Regional Table): DICK POEHLING - CODE 0203

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: 6.0%

Units for Sale: 1.5 %

Source of Data (3.a. Off-Base Housing): FAMILY HOUSING MARKET ANALYSIS OF 12/92 BY ROBERT D. NIEHAUS, INC.

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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? *
		Elementary	Middle	High	Current	Max. Capacity	Current	Max. Ratio	
San Diego Unified School District	San Diego	112	22	16	127,000	(1)	30	32	Yes
Poway Unified School District	San Diego	18	5	3	27,884	23,000	22.5	34	Yes
Chula Vista City Elementary School District	San Diego	32	N/A	N/A	18,284	(1)	29.8	31	No
Sweetwater Union High School District	San Diego	N/A	10	9	29,000	(1)	27	27	No
South Bay Union Elementary School District	San Diego	13	N/A	N/A	9,832	(1)	33	33	No
San Ysidro Elementary School District	San Diego	5	1	N/A	3,080	(1)	30	30	No
Alpine Union Elementary School District	San Diego	3	1	N/A	2,059	1,600	26.6	30	No
Bonsall Union Elementary School District	San Diego	1 (K-3)	1 (4-8)	N/A	1,244	1,244	27	30	No
Cajon Valley Union Elementary School District	San Diego	20	4	N/A	18,223	14,870	30.3	33	No
Cardiff Elementary School District	San Diego	2	N/A	N/A	951	951	28	30	No
Dehesa Elementary School District	San Diego	1	N/A	N/A	175	210	28	32	No
Del Mar Union Elementary School District	San Diego	3	N/A	N/A	1,200	1,400	24	27	No
Encinitas Union Elementary School District	San Diego	8	N/A	N/A	5,013	6,650	28.5	28.5	No
Escondido Union Elementary School District	San Diego	14	3	N/A	15,800	(1)	30	30	No

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School District	County	Number of Schools			Enrollment		Pupil-to-Teacher Ratio		Does School District Serve Gov't Housing Units? *
		Elementary	Middle	High	Current	Max. Capacity	Current	Max. Ratio	
Fallbrook Union Elementary School District	San Diego	6	1	N/A	5,930	6,100	30	33	Yes
Jamul-Dulzura Union Elementary School District	San Diego	2	1	N/A	1,229	1,229	27.5	33	No
Julian Union Elementary School District	San Diego	1	1	N/A	515	(1)	30	30	No
Lakeside Union Elementary School District	San Diego	7	2	N/A	4,897	(1)	28	31	Yes
La Mesa-Spring Valley	San Diego	18	4	N/A	14,200	13,461	28.3	32	Yes
Lemon Grove Elementary School District	San Diego	6	2	N/A	4,206	(1)	27	30	Yes
National Elementary School District	San Diego	10	N/A	N/A	6,248	(1)	30	32	Yes
Pauma Elementary School District	San Diego	2	N/A	N/A	390	(1)	26	32	No
Rancho Santa Fe Elementary School District	San Diego	1	1	N/A	590	(1)	30	30	No
San Pascal Union Elementary School District	San Diego	1	N/A	N/A	260	315	26	35	No
Santee Elementary School District	San Diego	10	8	N/A	8,123	(1)	31	32	No
Solana Beach Elementary School District	San Diego	4	N/A	N/A	1,902	(1)	27	27	No
Spencer Valley Elementary School District	San Diego	1	N/A	N/A	28	(1)	28	30	No
Vallecitos Elementary School District	San Diego	1	N/A	N/A	215	215	32	32	No
Valley Center Union Elementary School District	San Diego	2	1	N/A	2,414	(1)	28	30	No
Warner Union Elementary School District	San Diego	1	N/A	N/A	260	400	26	35	No
Escondido Union High School District	San Diego	N/A	N/A	3	6,900	(1)	30	35	No

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

School District	County	Number of Schools			Enrollment		Pupil-to-Teacher Ratio		Does School District Serve Gov't Housing Units? *
		Elementary	Middle	High	Current	Max. Capacity	Current	Max. Ratio	
Fallbrook Union High School District	San Diego	N/A	N/A	1	2,500	(1)	30	30	No
Julian Union High School District	San Diego	N/A	N/A	1	200	(1)	17	35	No
San Dieguito Union High School District	San Diego	N/A	3	2	7,270	7,270	28.5	31	No
Borrego Springs Unified School District	San Diego	1	N/A	1 (7-12)	401	(1)	30	30	No
Mountain Empire Unified School District	San Diego	6	1 (7-12)	0	2,050	2,050	30	35	No
Oceanside Unified School District	San Diego	15	3	3	18,072	18,072	30	35	Yes
Ramona Unified School District	San Diego	5	1	2	6,500	6,400	30	35	Yes
San Marcos Unified School District	San Diego	7	1	3	10,300	10,067	31	35	No
Vista Unified School District	San Diego	13	3	2	21,000	(1)	30	35	No
Carlsbad Unified School District	San Diego	7	1	1	6,706	6,706	32	35	No
Coronado Unified School District	San Diego	2	1	1	2,400	(1)	30	31	Yes
Grossmont Union High School District	San Diego	N/A	N/A	10	20,010	(1)	30	32	No

(1) District at or exceeding capacity. Schools could add trailers to increase capacity to handle overcrowding at the schools. This capacity changes rapidly as rooms are being converted from one type of class to other.

* Answer "Yes" in this column if the school district in question enrolls students who reside in government housing.

Note: 20 Schools have been built in San Diego County the past two years, 14 are under construction and 27 are planned for construction in the next five years according to the San Diego County Department of Education. No information is available on the numbers of schools to be closed or the total increase in student enrollment.

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

Source of Data (3.b.1) Education Table): COMNAVBASE SAN DIEGO AND THE SAN DIEGO COUNTY DEPARTMENT OF EDUCATION

2) Are there any on-base "Section 6" Schools? If so, identify number of schools and current enrollment.

No

Source of Data (3.b.2) On-Base Schools): DICK POEHLING - CODE 0203

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

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 :

COLLEGE/UNIVERSITY	GRADUATE	UNDERGRADUATE
1. The Advertising Arts College		X
2. California School of Professional Psychology	X	
3. California Western School of Law	X	
4. Chapman College	X	X
5. Christian Heritage College		X
6. Coleman College	X	X
7. Cuyamaca College		X
8. Grossmont College		X
9. Mira Costa College		X
10. National University	X	X
11. New School of Art & Architecture		X
12. Pacific Coast College		X
13. Palomar College		X
14. Point Loma Nazarene College	X	X
15. San Diego City College		X
16. San Diego Mesa College		X
17. San Diego Miramar College		X
18. San Diego State University	X	X
19. Southwestern College		X
21. United States International University	X	X
22. University of California - San Diego	X	X
23. University of La Verne	X	X
24. University of Phoenix	X	X
25. University of Professional Studies	X	X
26. University of Redlands	X	X
27. University of San Diego	X	X
28. Webster University	X	
29. Western State University College of Law	X	
30. West Coast University	X	X
TOTALS	17	27

Source of Data (3.b.3) Colleges): "ACCREDITED INSTITUTIONS OF POSTSECONDARY EDUCATION"

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

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:

SCHOOL

1. **Advertising Arts College**
   Desktop Publishing
2. **Anthony Schools of San Diego**
   Real Estate, Appraiser License Training, Contractor License Training
3. **Cabot Colleges**
   Medical Assistant, Medical Office, Computer
4. **CAD Institute**
   Computer Aided Design
5. **California College for Health Sciences**
   Respiratory Care
6. **California Culinary Academy**
   Professional Chef Training
7. **Century Business College**
   Chef, Hotel & Restaurant, Medical Front Office, Word Processing, Security Officer, Paralegal
8. **Coleman College**
   Computer Information Science, Computer Electronics Technology, Office Automation Systems
9. **Concorde Career Institute**
   Medical Assistant, Dental Assistant, Medical Office Management
10. **Court Reporting Institute**
    Court Reporting
11. **Design Institute of San Diego**
    Interior Design
12. **EduTek**
    Drafting, Electronics, Computerized Accounting, Administrative Assistant, Legal Secretary, Medical Administrative Assistant, Medical Assistant, Pharmacy Technician, Dental Assistant, Optical Technician, Automotive Technology, Air Conditioning-Heating and Refrigeration, Building Maintenance, Welding

13. **El Dorado College**
    Computer Accounting Assistant, Computerized Bookkeeping, Junior Accountant, Office Assistant, Computer Software Operations, Secretary/Legal Secretary, Legal Administrative Assistant, Computer Aided Drafting, Hotel Operations, Computer Installation & Service Technician
14. **ITT Technical Institute**
    Electrical Engineering Technology, Computer Aided Drafting Technology, Hospitality Management
15. **Kelsey-Jenney Business College**
    Court Reporting, Paralegal, Legal Secretarial, Administrative Assistant, Computer Studies/Word Processing, Business Management, Computerized Accounting/Finance, Medical Assistant, Medical Office Management, Medical Administrative Assistant
16. **Maric College of Medical Careers**
    Administrative, Clinical, Nursing
17. **Pacific Coast College**
    Accounting/Microcomputers, General Office Administration, Medical Office Receptionist, Vocational Nursing
18. **Platt College**
    Advertising Arts, Administrative Assistant, Medical Administration, Clinical Assistant, Drafting
19. **Travel University International**
    Travel Agent, Airline Employee, Flight Attendant, Hotel Management

Source of Data (3.b.4) Vo-tech Training): ACCREDITED INSTITUTIONS OF POST-SECONDARY EDUCATION AND SAN DIEGO YELLOW PAGES

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): DICK POEHLING - CODE 0203

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.

Santa Fe Depot Station
1050 Kettner Boulevard
San Diego, CA 92101

It is located 6 miles from this activity.

Source of Data (3.c.2) Transportation): DICK POEHLING - CODE 0203

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.

San Diego International Airport
3665 North Harbor Drive
San Diego, CA

It is located 4 miles from this activity.

Source of Data (3.c.3) Transportation): DICK POEHLING - CODE 0203

4) How many carriers are available at this airport?

15 Passenger; 7 Freight

Source of Data (3.c.4) Transportation): DICK POEHLING - CODE 0203, UNIFIED PORT DISTRICT OF SAN DIEGO

5) What is the Interstate route number and distance, in miles, from the activity to the nearest Interstate highway?

Interstate 8 is located 4.2 miles from this activity.

Source of Data (3.c.5) Transportation): DICK POEHLING - CODE 0203

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.)

This center primarily occupies over 500 acres of land on the Point Loma peninsula in San Diego, CA. This centers's facilities are concentrated in four major geographic areas on the Point: BAYSIDE, TOPSIDE, SEASIDE, and SOUTH TIP. These areas have two major points of ingress and egress discussed below:

1) BAYSIDE
State Highway 209 (Rosecrans Street) is a four lane surface street which has ingress and egress to Interstate 5. This street has the capacity to service a commercial district, a residential neighborhood, this center, Scripps Institute of Oceanography, the Navy Degaussing Station, and then terminates at the Submarine Base. State Highway 209 converges from four lanes along the commercial district into two lanes along a residential district. At this point Highway 209 turns west, and the two lane Rosecrans Street continues for approximately 1.5 miles through a residential district to this center's BAYSIDE gate. Congestion may occur in the morning and late afternoon peak hours when the submarine fleet is ported, and/or if street construction/maintenance is underway. Impacts have ranged from minor to significant, but have, for the most part, been short lived inconveniences for the center and the community.

2) TOPSIDE, SEASIDE, AND SOUTH TIP
State Highway 209 continues west until it merges with Catalina Boulevard. Catalina Boulevard is a four lane surface street that transverses a residential district along the entire crest of Point Loma. Catalina Boulevard has the capacity to serve the existing residential neighborhood, the three remaining geographic areas of this activity, Naval Command, Control And Ocean Surveillance Center Headquarters, the Fort Rosecrans National Cemetery, and the Cabrillo National Monument. Catalina Boulevard converges from four lanes into two lanes at Electron Drive, which is the main entrance into this center and the Naval Command, Control And Ocean Surveillance Center Headquarters. Catalina Boulevard continues from there past this center's SEASIDE ingress, past the Fort Rosecrans National Cemetery, past this center's SOUTH TIP ingress, and terminates at the Cabrillo National Monument. Since the primary users of

Catalina Boulevard during peak hours are federal personnel, traffic congestion and adverse impact upon the community is kept to a minimum.

b) Do access roads transit residential neighborhoods?

Yes. Both Rosecrans Street and Catalina Boulevard transverse residential neighborhoods.

c) Are there any easements that preclude expansion of the access road system?

The access roads are built out to their maximum.

d) Are there any man-made barriers that inhibit traffic flow (e.g., draw bridges, etc.)?

None.

Source of Data (3.c.6) Transportation): DREW AITKEN - CODE 0265

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.

This center has an agreement with the Federal Fire Department - Point Loma for fire protection (prevention and suppression) and response to hazardous material incidents. The fire department's role in hazardous material incidents is to provide initial response, including command and control of fire and rescue personnel during operations involving rescue, extinguishment, or possible containment of the material. Once these actions have been accomplished, the fire department's involvement reverts back to a support role. Recovery, neutralization, cleanup, and disposition of hazardous materials or chemicals is accomplished by trained experts in the related field, such as the Navy Public Works Center (This is determined by the on-scene Coordinator).

Source of Data (3.d. Fire/Hazmat): DENNIS DAVISON - CODE 038

e. **Police Protection.**

1) What is the level of legislative jurisdiction held by the installation?

This center holds a small amount of property in proprietary jurisdiction but the vast majority is exclusive jurisdiction.

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.

For law enforcement purposes, all property either inside the fenced perimeters of this command or unfenced and available for open parking is held in exclusive jurisdiction. The only portions of this command which are not held under exclusive jurisdiction are two public roads. This center possesses only a proprietorial interest over the portion of the roadway bisecting the Point Loma Federal Enclave; i.e., Catalina Memorial Drive (State Highway 209), which is within this center's property. Similarly, this center possesses a proprietary interest over that portion of Cabrillo Road which transverses our property. The State of California has been granted easements of forty feet on either side of centerline of Catalina Memorial Drive and thirty feet on either side of centerline of Cabrillo Road where these two roads transverse federal property. The limits of the jurisdiction of the San Diego Police Department generally conforms to the limits of these easements. No specific agreements exist with the local police department.

3) Does the activity have a specific written agreement with local law enforcement concerning the provision of local police protection?

No specific written agreement exists with the San Diego Police Department to provide law enforcement support within this center's property for which the federal government possesses exclusive jurisdiction. To our knowledge, such support has never been requested or provided. Also, no agreement exists to define the City of San Diego's responsibility for law enforcement over the above-mentioned roadways. Yet, the City of San Diego has frequently handled law enforcement matters such as Driving While Intoxicated (DWI) cases in these locations. Violators on the federal government's portion of these roadways have been handled by both federal and local law enforcement entities, depending upon the suspected illegal activity.

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.

No such agreements exist.

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.

This center does not receive any law enforcement support from other federal agencies other than neighboring military installations. Conversely, this center provides some indirect support to both the National Park Service's Cabrillo National Monument and the Veterans Administration's Fort Rosecrans National Cemetery. Each evening, this center establishes a control point on Catalina Memorial Drive as the monument and cemetery close. Our clearing of the SOUTH TIP of Point Loma of visitors as the area is closed to the public each evening constitutes some indirect physical security assistance to these other two federal entities.

Source of Data (3.e. 1) - 5) - Police): RICHARD FLETCHER - CODE 035 STATE OF CALIFORNIA STATE LANDS COMMISSION LETTER W24730 OF 27 SEP 91; SAN DIEGO POLICE DEPARTMENT WESTERN DIVISION'S MEMO FILE # 467 OF 10 JAN 92; AND THE SAN DIEGO COUNTY RECORDER'S OFFICE DOCUMENT # 1993-0799890 OF 29 NOV 93.

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.

All utilities are owned by Navy Public Works Center, San Diego. This center is billed for consumption and maintenance.

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.

No.

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.

No.

Source of Data (3.f. 1) - 3) Utilities): DREW AITKEN - CODE 0265

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. Military	Active Duty - Department of Navy	122,000
2. Department of Navy Full-time Civilians	Department of Navy	36,000
3. University of California San Diego	Education	17,000
4. San Diego County	Public Service	13,000
5. San Diego Unified School District	Public Service	13,000
6. City of San Diego	Public Service	10,000
7. Sharp Healthcare	Medical	9,000
8. Martin Marietta Note 1	Manufacturing	9,000
9. Scripps Memorial Hospitals	Medical	8,000
10. State of California	Public Service	7,000

Note 1. Martin Marietta purchased the assets of the General Dynamics Corporation in San Diego and has announced the movement of almost all jobs from the San Diego area.

Source of Data (4. Business Profile): SAN DIEGO AND CHULA VISTA CHAMBERS OF COMMERCE, DEPARTMENT OF NAVY, AND SAN DIEGO ASSOCIATION OF GOVERNMENTS

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ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

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:

General Dynamics sold most of its interests in San Diego and its successor, Martin Marietta, has announced that they will move almost all operations from San Diego. The remaining General Dynamics asset (Convair Division) announced 1 July that they will cease operation in 1996, the loss of 2,100 jobs. All aerospace industries in San Diego (General Dynamics, Martin Marietta and Rohr) have suffered dramatically from cutbacks in defense industries and aerospace.

b. Introduction of New Businesses/Technologies:

New business growths are expected to be in the biotechnology, healthcare, computers and electronics, telecommunications, and export trade to the Pacific Rim.

c. Natural Disasters:

No major disasters affecting San Diego County have occurred during the past 5 years. As was shown recently in Los Angeles, there is always a potential for earthquakes.

d. Overall Economic Trends:

The economy is slow in returning from the recession that is affecting California. The area continues to have a net increase of people, however the high paying jobs are being terminated or moved out of the area. Planners at the San Diego Association of Governments predict an increase of 29,000 jobs per year until 2015.

Source of Data (5. Other Socio/Econ): SAN DIEGO ASSOCIATION OF GOVERNMENTS

DATA CALL 65
ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA

6. Other. Identify any contributions of your activity to the local community not discussed elsewhere in this response.

For more than a decade, this center has been the "partner in education" to Gompers Jr.-Sr. High School, the city's science/mathematics/computer science magnet school, providing speakers, tours, judges for the school's science fair, etc. For three decades, this center has provided substantial numbers of judges for the Greater San Diego Science and Engineering Fair. NCCOSC RDTE DIV SAN DIEGO CA works closely with its parent command (NCCOSC SAN DIEGO CA) and an industry group -- the Armed Forces Communications and Electronics Association (AFCEA) -- to encourage careers in science and engineering. NCCOSC RDTE DIV SAN DIEGO CA/AFCEA provide awards, including savings bonds, to a number of students at the Greater San Diego Science and Engineering Fair, and host them for a day to see this center's technical programs and meet command scientists and engineers. In January of this year (1994), the NCCOSC RDTE DIV SAN DIEGO CA/NCCOSC SAN DIEGO CA/AFCEA team coordinated efforts with science departments at 11 local high schools and provided transportation for more than 500 students interested in science and engineering to attend a major AFCEA/U.S. Naval Institute conference and exhibition. In addition to a tour of the exhibits, students saw demonstrations by Navy and Army special forces personnel and heard a talk by a Navy astronaut. Planning is well underway to sponsor the event again next year. We work closely with Cabrillo National Monument, the San Diego Police Department and other agencies to support civic/charitable events -- walks, running events, triathlons -- that permit access to thousands of people each year to generally restricted command facilities.

Source of Data (6. Other): TOM LAPUZZA - CODE 003

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Sixty-Five - NCCOSC RDTE DIV SAN DIEGO CA

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

NEXT ECHELON LEVEL (if applicable)

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

Commander
Title

Naval Command, Control and Ocean Surveillance Center
Activity

25 July 1994
Date

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

MAJOR CLAIMANT LEVEL

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

Signature

Commander
Title

27 July 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

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

Signature

ACTING
Title

18 AUG 1994
Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

KIRK E. EVANS, CAPT., USN	
NAME (Please type or print)	Signature
COMMANDING OFFICER	13 JULY 1994
Title	Date
NCCOSC RDTE DIV	
Activity	

ECONOMIC AND COMMUNITY INFRASTRUCTURE DATA CALL # 65

NCCOSC RDTE DIV

DATA CALL 1: GENERAL INSTALLATION INFORMATION

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

- Name

Official name	Naval Command, Control And Ocean Surveillance Center Research, Development, Test, and Evaluation Division
Acronym(s) used in correspondence	NCCOSC RDTE DIV **(FORMERLY NOSC)** **(SEE NOTE BELOW)**
Commonly accepted short title(s)	NRaD

NOTE: NRaD was formerly the Naval Ocean Systems Center (NOSC).

- Complete Mailing Address:

Commanding Officer
NCCOSC RDTE DIV
53560 Hull Street
San Diego CA 92152-5001

- PLAD: NCCOSC RDTE DIV SAN DIEGO CA

- PRIMARY UIC: N66001 (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:

N41631	Used to track the military Ocean Surveillance Support Detachment (OSSD) personnel assigned to this command's Code 7203 by SPAWAR PD80 (Undersea Surveillance Program Directorate).

N42326	Used to track the military divers assigned to this command.
N43736	Used to track the military personnel assigned to the NAVSTAR Global Positioning System (GPS) project and functioning as an integral part of the Joint System Support Management Office (JSSMO) at Robins AFB, Georgia.
N45782	Used to track a small military unit performing watercraft operations.
N47627	Used to track the military personnel assigned to non-project (Non-NIF) related assignments at this DBOF command.
N49281	This is the UIC of our Warminster detachment cited in paragraph 5.
N63152	Used to track the former FCDSSA military personnel assigned to Bldg C-60 at this command.
N65576	Used to track the military personnel assigned to the NAVSTAR Global Positioning System (GPS) project and functioning as an integral part of the Joint System Support Management Office (JSSMO) at Los Angeles AFB, El Segundo, CA.
N66001	This is our primary command UIC. This UIC is also used at our small field offices located at Arlington, VA; El Segundo, CA; Newport, RI; Pearl Harbor, HI; San Clemente Island, CA; San Diego, CA; Yokosuka, JA; Camp HM Smith, HI; Gaeta, Italy; Manama, Bahrain; Norfolk, VA; and Warner Robins, GA.
N66620	This is the UIC of NRaD's disestablished Kailua, HI detachment. It is no longer used and the detachment was disestablished effective 30 Sep 1993 in accordance with BRAC-91.
N68592	This is the UIC of our Philadelphia detachment cited in paragraph 5.

2. PLANT ACCOUNT HOLDER:
   - Yes x No _____ (check one)

REMARKS:

Morris Dam Test Facility, Azusa, CA - This command leases the land from the Los Angeles Metropolitan

Water District. We own various weapons systems RDT&E buildings and related structures.

La Posta Astrophysical Observatory, East San Diego County, CA - This command owns astrophysical RDT&E buildings and related structures.

Mt Soledad Transmitter, San Diego, CA - This command owns one transmitter at the Mt Soledad location. We own no land.

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.

NOTE: As a result of BRAC-93, NRaD will become the plant account holder for Class 1 and Class 2 property at NAWC-AD Warminster, PA. This will include a small compound sized for our detachment.

Name	Location	UIC
Computer Program Operations Center **NOTE: NRaD occupies space in building C60 as a tenant of FCTCPAC.**	Point Loma, CA	N61665
*Morris Dam Test Facility	Azusa, CA	N66001
*La Posta Astrophysical Observatory	East San Diego County, CA	N66001
*Experimental Test Facility	Sentinel, Arizona (Luke AFB)	N66001
Point Loma Annex (Naval Supply Center) **NOTE: NRaD occupies space in two facilities on the Bayside Fuel Depot owned by NSC.**	San Diego, CA	N00244
San Clemente Island	Los Angeles County, CA	N00246
Building E-134 Warehouse	Naval Air Station, Miramar, CA	N60259
Mt Soledad Transmitter	San Diego, CA	N63387

NOTE: The UICs listed above are the Host UICs for these special areas. NRaD does not have separate UICs at these locations.

* Although these three special areas are still our responsibility and are included in our records, they are rarely used and we are actively in the process of divesting ourselves of them.

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

Name	UIC	Location	Host name	Host UIC
Naval Command, Control And Ocean Surveillance Center RDT&E Division Detachment	N49281	Warminster, PA	Naval Air Warfare Center Aircraft Division	N62269
Naval Command, Control And Ocean Surveillance Center RDT&E Division Detachment	N68592	Philadelphia, PA	Naval Station Philadelphia	N61189
NRaD field office	N43736 N66001	Warner Robins, GA	Robins AFB	FB2065
NRaD field office	N65576	El Segundo, CA	Los Angeles AFB	F00004
NRaD field office (NSAP)	N66001	Yokosuka, JA	Commander Seventh Fleet	N57024
NRaD field office (NSAP)	N66001	Pearl Harbor, HI	Fleet Marine Force HDQTRS, Pacific	N67025
NRaD field office (NSAP)	N66001	Pearl Harbor, HI	Commander In Chief Pacific Fleet, NAVBASE	N00070
NRaD field office (NSAP)	N66001	Camp HM Smith, HI	Commander In Chief US Pacific Command	N00038
NRaD field office (NSAP)	N66001	San Diego, CA	Commander Third Fleet	N57087

Name	UIC	Location	Host name	Host UIC
NRaD field office (NSAP)	N66001	San Diego, CA	Naval Surface Force US Pacific Fleet, Naval Amphibious Base	N53824
NRaD field office (NSAP)	N66001	Gaeta, Italy	Commander Sixth Fleet	N57042
NRaD field office (NSAP)	N66001	Manama, Bahrain	Commander US Naval Forces Central Command Rear	N00043
NRaD field office	N66001	Arlington, VA	Space and Naval Warfare Systems Command	N00039
NRaD field office	N66001	Norfolk, VA	CINCLANTFLT CINCUSACOM	N00060 N00066
NRaD field office	66001	Pearl Harbor, HI	NCCOSC West Coast ISE DIV	N68944
NRaD field office	N66001	San Clemente Island, CA	Naval Air Station North Island	N00246
NRaD field office	N66001	Newport, RI	Naval Undersea Warfare Center Division	N66604

NOTE: NRaD's detachments at Warminster, PA and Philadelphia, PA are the only CNO recognized detachments. Field offices listed are for locations in which NRaD has personnel assigned on a 12 month or longer basis. They are listed for completeness.

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.

YES

On 12 April 1991, SECNAV approved a plan to consolidate Navy RDT&E, Engineering and Fleet Support Activities. Part of that plan was the establishment of the Naval Command Control and Ocean Surveillance Center (NCCOSC), located on Point Loma in San Diego, CA as one of the Navy's full spectrum warfare centers. Concurrently, the Naval Ocean Systems Center (NOSC) was disestablished as a separate reporting activity. As part of the NCCOSC establishment, the Research, Development, Test and Evaluation (RDTE) Division was established as a subordinate command collocated with NCCOSC at San Diego, CA. BRAC-91 approved this plan and it was effective 1 January 1992.

When BRAC-91 approved the SECNAV 12 April 1991 consolidation plan, the following were also approved:

WARMINSTER DETACHMENT
When the Naval Air Development Center (NADC) in Warminster, PA was disestablished, some of the former NADC functions, personnel, and facilities at Warminster, PA became the Naval Command, Control And Ocean Surveillance Center RDT&E Division Detachment at Warminster.

PHILADELPHIA DETACHMENT
BRAC-91 closed Naval Station Philadelphia, PA and transferred tenants to other bases. OPNAV modified the name of one of those tenant commands, the Naval Electronic Systems Engineering Activity Detachment, Philadelphia, PA to the NCCOSC RDT&E Division Detachment Philadelphia, which will relocate in 1995 to property currently held by NAWC-AD at Warminster, PA.

FCDSSA
The Fleet Combat Direction Systems Support Activity (FCDSSA) located in San Diego, CA had it's functions, personnel, and other resources transferred to the Naval Command, Control And Ocean Surveillance Center Research, Development, Test, and Evaluation Division in San Diego and effective 5 April 1992 FCDSSA was disestablished.

HAWAII DETACHMENT
The functions, personnel, and other resources of the NCCOSC RDTE DIV, Detachment, Kailua, Hawaii were transferred to our activities in San Diego, CA and Pearl Harbor, HI and this detachment was disestablished effective 30 September 1993.

NSSA LOS ANGELES

Effective 1 October 1992, OPNAV disestablished the Navy Space Systems Activity (NAVSPASYSACT) in Los angeles after transferring its functions, personnel, facilities, and other resources to the Naval Command, Control And Ocean Surveillance Center Research, Development, Test, and Evaluation Division in San Diego.

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

RDT&E and life cycle support for Navy, Marine Corps and Joint Forces Command, Control and Communications Systems and Countermeasures including:

Command & Control Systems
Communications Systems
C3I technology, modeling & simulation
C3I integration & interoperability
C3I architecture & engineering
C3I Systems Countermeasures
Real time battle management systems for command platforms
Intelligence systems
Integrated Space Communications and Surveillance
Joint SATCOM System
Network Design and Implementation

Ocean Surveillance Systems; including Aerospace, Surface, and Undersea Systems for Joint and Navy Forces including:

Mobile and Deployable Undersea Surveillance Systems
All-source Ocean Surveillance Information Integration
Preparation of Consistent Situation Perception
National Surveillance Sensor Exploitation
Radar and Electro-optic Surveillance Systems
Signals Warfare
Ashore and Afloat Cryptologic Systems
Theater Acoustic Warfare
IUSS System Software Support
Surveillance Modeling and Simulation

Embedded High Performance Computing for Surveillance Applications

Ocean Engineering and Science including:

Ocean Engineering
Ocean Science
Marine Environmental Quality Assessment & Remediation
Unmanned Systems
Ocean Survey Systems

Navigation Systems, Sensors, Technology and Support for all Naval Platforms including:

Navigation Systems
Inertial Navigation Systems

Marine Mammals and Marine Mammal Systems

Integrated Space Communications and Surveillance

Environmental Science

Intelligence Systems

Physical Security

Design & Fabrication of Semiconductor Integrated Circuits

Projected Missions for FY 2001

Include all of above plus:

Increased emphasis on Information Warfare

Ocean Surveillance Support For Non-DOD Agencies (Based on discussions with NOAA personnel on the need and desire to use the SOSUS arrays to support their charter in these mission areas. NRaD is currently supporting the Counter Narcotics mission for DoD using the Relocatable Over the Horizon Radar, so has some experience in what is required to support that mission.

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

Marine mammals (Husbandry, training and systems development for Fleet units. NRAD has a lifetime commitment to the care and welfare of the Navy's marine mammals.)

Deep Ocean Engineering (In-house support for classified deep ocean engineering programs.)

Design & Fabrication of Semiconductor Integrated Circuits (Designated Navy Microelectronic Applications Laboratory. Unique support for specialized micro electronics developments for Strategic Systems Program.)

Naval Navigation (Only Activity which can conduct RDT&E on long enduranceInertial Navigation Sensors and Systems. Highest Precision, Most Stable Inertial Laboratory in the country and premier Navy R&D Laboratory for Inertial Sensor Development. Long endurance is a requirement for accurate submarine missions and submarine ballistic missile accuracy.)

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

BRAC 91 established NCCOSC with unique missions and leadership responsibilities in C3I and Ocean Surveillance, within the unique mission assignment to NCCOSC, NRaD provides primary capability for RDT&E and acquisition for:

- Navy Communications (Development, integration and life cycle support of Navy Satellite Communications Systems.)

- Maritime Command and Control Systems (System engineering, integration and Fleet support of Maritime command and control systems.)

- Undersea Surveillance Systems (Navy unique in-house systems engineering, software support activity and development of undersea surveillance systems. Development and life cycle support of the Navy's

undersea communications systems.)

- Real time battle management systems for command platforms (Integration, testing, installation and life cycle support for command system platforms.)

- Integrated Space Communications and Surveillance (Development, installation and life cycle support of DoD Tactical Data Dissemination System. Includes support for National, Air Force, Army, and Marine Corps hardware and software systems.)

Projected Unique Missions for FY 2001
Include all of the above plus:

GPS Support for Non-DoD (Added because GPS has undergone considerable expansion to the private sector and there exists a need for a certifying agent for qualifying GPS simulators and receiving elements under the auspices of the GPS JPO for all US and allied requesters.)

Full Spectrum DoD Navigation Laboratory (The Navy's Navigation Laboratory is resident at NRaD's Warminster detachment. NRaD is responsible for Navigation and has the potential under consolidation to expand to meet all of DoD navigation RDT&E requirements.)

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
Naval Command, Control And Ocean Surveillance Center	N68940

Funding Source	UIC
Space And Naval Warfare Systems Command	N00039
Naval Sea Systems Command	N00024
Chief of Naval Research	N00014

Advanced Research Projects Agency	ARPA01
Navy Engineering Logistics Office	N41756
Naval Air Systems Command Headquarters	N00019
Naval Surface Warfare Center Dahlgren Div Det White Oak	N60921
Naval Undersea Warfare Center Division	N66604
Naval Explosive Ordnance Disposal Technology Center	N0464A
Strategic Systems Programs	N00030

We have listed our top ten funding sources. Hardcopy Appendix A lists the UICs of all of our 261 FY 93 funding sources.

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 *	64	104	3,031
• Tenants (total)	19	92	675

* Includes tenants of other commands as noted in question 5. The on board numbers for our personnel at these sites have been provided to host commands for inclusion in their respective responses to Data Call Number One.

	Officers	Enlisted	Civilian (Appropriated)
UIC 49281 - Warminster, PA	0	0	253
UIC 68592 - Philadelphia, PA	0	0	29
All other field locations	2	0	41

Authorized Positions as of 30 September 1994

	Officers	Enlisted	Civilian (Appropriated)
• Reporting Command *	61	170	2,925
• Tenants (total)	20	83	632

* Includes tenants of other commands as noted in question 5. The authorized numbers for our personnel at these sites have been provided to host commands for inclusion in their respective responses to Data Call Number One.

	Officers	Enlisted	Civilian (Appropriated)
UIC 49281 - Warminster, PA	0	0	248
UIC 68592 - Philadelphia, PA	0	0	28
All other field locations	2	0	43

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

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

12. TENANT ACTIVITY LIST: This list must be all-inclusive. Tenant activities are to ensure that their host is aware of their existence and any "subleasing" of space. This list should include the name and UIC(s) of all organizations, shore commands and homeported units, active or reserve, DOD or non-DOD (include commercial entities). The tenant listing should be reported in the format provide below, listed in numerical order by UIC, separated into the categories listed below. Host activities are responsible for including authorized personnel numbers, end strength 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
Naval Base San Diego (Fire Dept)	N00242	0	0	15
Port Hueneme Division Naval Surface Warfare Center	N63394	3	7	62
Naval Military Personnel Command Support Activity Det	N41341	1	18	0
Defense Printing Service Branch Office, Pt Loma	N43639	0	0	13
Naval Surface Warfare Center Dahlgren Division DET White Oak	N60921	0	0	7
Naval Health Research Center	N63116	11	14	59
Navy Public Works Center	N63387	0	0	185
Navy Personnel Research And Development Center	N68221	4	11	220

Tenant Command Name	UIC	Officer	Enlisted	Civilian
Personnel Support Activity Det Pt Loma	N68554	1	33	13
Naval Undersea Warfare Center Keyport Detachment Arctic Submarine Lab	N68951	0	0	7
Defense Technical Information Center (DTIC)	D000UA	0	0	12
Defense Finance And Accounting Service DAO-CL San Diego, Pt Loma Detachment	HQ0112	0	0	39
*Scheduled Airline Traffic Office	SATO	0	0	0
*La Petite Academy, Inc	LPA	0	0	0
*Data Disposal, Inc	DDI	0	0	0
*Point Loma Federal Credit Union	PLFCU	0	0	0
*Evergreen Concessions Co	ECC	0	0	0
*Marine Physical Laboratory	MPL	0	0	0

Tenant Command Name	UIC	Officer	Enlisted	Civilian
TOTALS		20	83	632

* SATO: Six SATO contractors provide airline scheduling services for NCCOSC and this command's travelers.

  LPA: Seventeen La Petite Academy, Inc contractors provide daycare services for 80 children of this command's military and civilian employees.

  DDI: Five Data Disposal, Inc contractors perform pick-up, shredding, and disposal of approximately 5 tons of paper products per week for this command and NCCOSC.

  PLFCU: Fourteen Point Loma Federal Credit Union contractors provide full service banking at two locations for various military and civilian customers.

  ECC: Fifteen contractors provide cafeteria services at three locations at this command for various military and civilian customers.

  MPL: Twenty five contractors work in this scientific activity that provides support for Scripps Institute of Oceanography, whose principal business area is oceanography.

- Tenants residing on main complex (homeported units.)

Tenant Command Name	UIC	Officer	Enlisted	Civilian
NONE				

- 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
*University Of California	UC	LaPosta, CA	0	0	0

*U.C. Customs	USC	LaPosta, CA	0	0	0

* These are tenants at our La Posta Astrophysical Observatory, which is rarely used. Neither tenant has permanent full-time personnel on site.

- Tenants (Other than those identified previously)

Tenant Command Name	UIC	Location	Officer	Enlisted	Civilian
NONE					

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.)
USS Kittyhawk, USS Vinson, & USS Constellation Battlegroups	Pacific Theatre, deployment to Persian Gulf	C4I grooming, training, systems integration, and workup in preparation for deployment for entire battlegroups and across all C4I systems. Tasking and Funding Documents
Coast Guard Group Auxiliary	Point Loma, CA	Communications support - ISSA
Coast Guard Alameda	Point Loma, CA	Communications support - ISSA
Drug Enforcement Administration	Point Loma, CA	Surveillance - ISSA
Federal Communications Commission	Point Loma, CA	Radio Direction Finder - ISSA
Federal Bureau of Investigation	Point Loma, CA	Surveillance - ISSA
Fleet Intelligence Deception Group Pacific	Point Loma, CA	Training - ISSA
U.S. Customs	Point Loma, CA	Surveillance - ISSA
Pacific Missile Test Center	Point Loma, CA	Communications/Surveillance Support - ISSA
SPAWAR	Arlington, VA	Provide development and T&E support to PD 80 for SURTASS/LFA, LLFA, and ADS. Tasking and Funding Documents
		Design, development, test and evaluation of major C4I systems such as JMCIS, OSS, JTIDS, and the Global Command Control System. Tasking and Funding Documents.

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
SPAWAR (cont.)	Arlington, VA	Provide technical support and manage ment assistance. Provide leadership in flexible communication modes to increase throughput to FVLF/LF modes. Work Requests Perform independent review of critical projects in communications theory working groups. Procure hardware and software to implement submarine version of Ship Automated Communications Control System. Automate existing manually operated patch panels on submarines and integrate with other submarine communications subsystems. BaseBand Switch funding ensures submarine radio room of the future is compatible with Joint Tactical and Battle Group communications by maximizing interoperability of submarinmarines with the mainstream of Navy communication sources. Improve operability of radio rooms with increased or total automation. Tasking and Funding Documents
		Architecture, design, devlopment, test and evaluation of Satellite Communications systems. System Engineering support for the Comunication Support System development. Tasking and Funding Documents
		Provide program management, software support for satellite communications programs. Provide a multiuser testbed for the development, test, and maintenance of HF, UHF, SHF and EHF satellite communications systems. Tasking and Funding Documents
		Technology forecasting, systems requirements, and program planning for C3. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
SPAWAR (cont.)	Arlington, VA	Mechanism for each of the following is Tasking and Funding Documents: Provide development and T&E support to PD 80 for SURTASS/LFA, LLFA, and ADS. Provide system engineering support in development, integration and test of the Fixed Distributed System, Surveillance Direction System, Site 7800, and software maintenance support (SSA) for the Sound Surveillance System. Provide test, engineering and analysis support to determine LFA interference with torpedo weapons systems, (Mk 46, ADCAP, Mk 50). Provide systems engineering, test and evalu-ation, and software support for ALL shipboard and selected shore-based cryptologic systems and to provide analysis and software support of major modelling effort. Support provided in systems engineering, development, integration analysis and test and evaluation of active and passive acoustic surveil-lance systems, mobile and deployable surveillance systems, and data fusion systems to support Joint and Maritime surveillance. Provide a multi-INT, multi-level software development to be hosted by Tactical Data Processors at the national, theater, tactical and weapon platform levels that will allow intelligence analysts to build a comprehensive picture. Provide systems engineering, algorithm development and analysis, and communications network planning for national systems. Provide engineering liaison in the Defense Meteorological Satellite Program (DMSP) office to ensure Navy interests are protected in

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
SPAWAR (cont.)	Arlington, VA	development of the Special Sensor Microwave Imager (SSMI) for DMSP Block 5D2, the Special Sensor Microwave Imager Sounder (SSMIS) for DMSP 5D3 and Navy Block 6 Risk Reduction Phase II studies.
		Provide engineering support in the development and integration of the Global Positioning Systems (GPS) receivers and the Joint Tactical Information Distribution (JTIDS) for anit-jam communications. Tasking and Funding Documents
		Provide management and technical support in the communications area. Tasking and Funding Documents
		Design, development, test, evaluation, assessment and modeling/simulation of communication systems and devices and MLS LAN security products for network applications. Tasking and Funding Documents
		Provide operational system hardware/software engineering support for VLF Strategic Communication Systems. Includes design, development, implementation and fleet support for various Sub Comm Systems, e.g., Enhanced VERDIN, SLVR, Trident IRR, ISABPS, IVTT, NSBS. Provide software life cycle support to fleet. Operate and maintain testbed. Provide configuration management, quality assurance, develop system enhancements, resolve systems problems, provide submarine broadcast architecture studies. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
SPAWAR (cont.)	Arlington, VA	Provide engineering support to SPAWAR for HF Radio Group procurement, R-2368 HF receiver procurement, system engineering for at-sea demonstration of advanced HF technology. Tasking and Funding Documents
		Provide engineering expertise on shipboard and battlefield physical environements in support of SPAWAR procurements, (including TAC-3 and TAC-4) and perform environment qualification testing in shock, vibration, temperature, humidty, electrical supply, magnetic fields and EMI for Navy activities and suppliers. Tasking and Funding Documents
		Program Management support for NTCSS in support of SPAWAR's project JMCIS. Tasking and Funding Documents
	World-wide	R&D in NRaD's mission areas: command and control surveillance, communications, navigation. Management, test planning sea run data analysis, and reporting,engineering consulting for Joint Surface Ship Torpedo Defense. Tasking and Funding Documents
NAVAIR	Arlington, VA	Provide non acoustic sensor software support via work requests. Tasking and Funding Documents
		Development of new techniques to diagnose the condition of mechanical systems. Tasking and Funding Documents
		Logistics, photographic and personnel support of Tomahawk missile project; technical training support of Pioneer RPV and VTOL-UAW. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NAVAIR (cont.)	Arlington, VA	Design, development, test, and evaluation of airborne tactical data systems for E2C aircraft; Air Traffic Control and ID System; development, acquisition, introduction and life-cycle support of the AN/SLQ-20 Upgrade System. MOA, Tasking and Funding Documents
		Support the development and integration of Navigation equipment such as GPS, airborne inertials, LPI altimeters and communications systems et. al aboard Navy aircraft. Tasking and funding documents
		Provide non-acoustic sensor software support. Provide the Cruise Missile Program Office with engineering design of long range tactical telemetry system on the Tomahawk Cruise Missile. Tasking and Funding Documents
		Design, development and installation of switching systems. Management and support of EMC database. Tasking and Funding Documents
		Provide Operational System Hardware/ Software Engineering Support for VLF Strategic Communication Systems for the TACAMO E-6A aircraft. This includes Design, Development, Implementation and Fleet Support for various Submarine Relay Communication Systems, e.g., TACAMO Message Processing System, MILSTAR Message Processing System. Also included is Software Process Improvement Program Support for NAVAIR Advisory Committee participation. Tasking and Funding Documents
		Communications system engineering support for UAV programs. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NAVAIR (cont.)	Arlington, VA	Conduct computer integrated manufacturing pilot projects to improve quality of electronic components for missiles. Tasking and Funding Documents
SSPO, Navy Activities	Nationwide	Engineering, test and analysis, and support of guidance subsystems. Tasking and Funding Documents
SSPO, Navy Activities and UK	UK Nationwide	Engineering, test, and support of fire control and missile transport. Tasking and Funding Documents
SSPO	Arlington, VA	Support Trident Planar Array Bathymetric Fix Project. Tasking and Funding Documents
CNO	Washington DC	Sensor Systems Integration for the Mobile Inshore Undersea Warfare System Upgrade (engineering and acquisition). Tasking and Funding Documents (WX)
		Development and support of the OSS. DTC and TAC project management, development of technical requirements, and acquisition management. MOA, Tasking and Funding Documents
		Provide support for the AUS-CAN-NZ-UK-US effort. Tasking and Funding Documents
		Provide data analysis support for RIMPAC exercises. Tasking and Funding Documents
		Provide system engineering and test for Radiant projects and for exercise support and demonstrations. (Radiant Tin, Silica, DBS, STDN). Tasking and Funding Documents
CNO, Fleet Submarines	World-wide	T&E of deep red focal plane arrays. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
CNO and Navy activities	World-wide	Marine Mammal RDT&E Care & Maintenance of Marine Mammals. Acquisition & outfitting. Product Improvement ISEA Configuration Control Technical Representative Engineering Support Depot Maintenance Spare Marine Mammals & Veterinary Support Documentation. Tasking and Funding Documents
ARPA	Arlington, VA	Common Grid. ARPA Order
		Support provided in research and development of acoustic warfare, distributed simulation, and multi-source data fusion functional capabilities. Tasking and Funding Documents Conduct research in application of Scalable Parallel Super-computers to military systems with emphasis on real time and embedded systems. Tasking and Funding Documents Operate and upgrade acoustic simulations on supercomputers. Tasking and Funding Documents Provide system development for unattended ground sensors, and Interferometric Synthetic Aperture Radar. Tasking and Funding Documents
		Develop sensor and data analysis technologies (algorithms and high performance computing) in support of the Warbreaker program. Provide technical support for the GGP Program. Assist and monitor the development of new technology in microcircuit concepts, designs, processes, applications, and development. Eventual extension of the technologies to applications in US Navy ships, submarines, aircraft, and spacecraft is the goal. Tasking and Funding Documents

N66001

Certified Data: Naval Command, Control and Ocean Surveillance Center, RDT&E Division, San Diego - BRAC 95 Data Call Number One

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

NEXT ECHELON LEVEL (if applicable)

J. J. Donegan, Jr
NAME (Please type or print)

Signature

Commander
Title

11 Feb 1994
Date

Naval Control, Command and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

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

W. H. Cantrell
Signature

Commander
Title

2/14/94
Date

Space and Naval Warfare Systems Command
Activity

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

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

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

Signature

ACTING
Title

16 FEB 94
Date

BRAC-95

DATA CALL NUMBER ONE

Data for

Naval Command, Control and Ocean Surveillance

Center, RDT&E Division, San Diego

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ARPA (cont.)	Arlington, VA	Provide the technology to extend the Global Grid (ATM and ATDNet) to the Warrior. Tasking and funding documents
		Develop technologies to support an industrial infrastructure for optics oriented guidance, navigation, and control. Tasking and Funding Documents
		R&D for image recognition systems using neural network-based intelligence. Tasking and Funding Documents
ARPA and Navy Commands	World-wide	Develop C4I and wargaming and simulation technology and integrate into Navy and Joint systems along with major demonstrations. Tasking and Funding Documents
ARPA and Navy Commands conducting optoelectronic activities	World-wide	R&D and management support of optoelectronic activities. Tasking and Funding Documents
ARPA; Navy, Air Force and Army Activities	World-wide	Develop guidance, navigation, sensors, microelectronics, targeting, training, and communications technologies for DoD, tri-service military, law enforcement and special Research, development and implementation of technology for communications and displays operations. Tasking and Funding Documents
NSWC	Arlington, VA	High power electronics. Tasking and Funding Documents
		Toxicity testing for new antifouling paints. Tasking and Funding Documents
NSWC	Crane, IN	Logistics and personnel support of sonobuoy acceptance testing. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NSWC	Panama City, FL	Installation. Work Request
NSWC	White Oak, MD	Support in transitioning of ASWCS MK 116 UFCS and AMES simulation system to NSWC, White Oak, MD and Dahlgren VA. Tasking and Funding Documents
NIPO	Arlington, VA	International data exchange agreements for the Navy. Tasking and Funding Documents
NIPO and Navy Commands	World-wide	Support of international programs in electronics. Tasking and Funding Documents
U.S. Coast Guard HQ	Washington DC	GPS/HC-130 Integ. MIPR
U.S. Coast Guard Activities	World-wide	Omega navigation progagation and prediction. Tasking and Funding Documents
U.S. Coast Guard Operations Center	Alameda, CA	Support to USCG in use of U.S. Navy surveillance resources to support Coast Guard Operations to include fisheries regulations enforcement. Tasking and Funding Documents
U.S. Coast Guard Activities	All U.S.	Design and build moving target simulator. Provide Coast Guard Cutter and Cruiser topside designs. Tasking and Funding Documents
U.S. Coast Guard Electronic Engineering Center	Wildwood,NJ	DGPS. MIPR
U.S. Army	World-wide	Provide E3 support and communication support software. Tasking and Funding Documents
U.S. Army CECOM and DOD Activities	World-wide	R&D in progagation assessment. Tasking and Funding Documents
		Development of joint electronic warfare reprogramming capabilities, signals analysis and data fusion. MOA, Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NRL	Washington DC	Acoustic propagation modeling; Sea-Truthing Services. Tasking and Funding Documents
		Support Sonar Data Baskscatter Imagery Processing and to support the development of technology to support Navy navigations, airborne communications and airborne electronics. Work Request
NUWC	Newport, RI	Engineering transducer testing at TRANSDEC. Tasking and Funding Documents
		Various acoustic testing at TRANSDEC. Tasking and Funding Documents
		Life Cycle Support for Share/43 Timesharing System and CMS2-Y Compiler Monitor System. Tasking and Funding Documents
NUWCDIV	San Diego, CA	Engineering, design, fabrication, installation, materials and personnel support of USS Dolphin. Tasking and Funding Documents
		Logistics and personnel support. Tasking and Funding Documents
NUWC and Fleet	World-wide	Prototype transducer testing at TRANSDEC. Tasking and Funding Documents
		Provide the design, development, test and evaluation of a torpedo feed water heater. Tasking and Funding Documents
NUWC	San Diego, CA Newport, RI Rockford, IL	Design, fabrication, assembly, test planning, test conduct, data analysis for diagnostics. Tasking and Funding Documents
NUWC Arctic Submarine Lab	World-wide	Provide conceptual design, development, test and evaluation of an experimental transducer. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ONR/ASN	Nationwide	Engineering support/manufacturing technology in electronics packaging. Tasking and Funding Documents
DLA	Nationwide	Management & support of generalized emulation of microelectronics for unavailable parts. Tasking and Funding Documents
Ballistics Missile Defense Offices, U.S. Army	Washington DC	T&E of deep red focal plane arrays. Tasking and Funding Documents
Defense Nuclear Agency	World-wide	Strategic communications. Tasking and Funding Documents
NATO/AGARD	World-wide	Propagation research. Tasking and Funding Documents
DOE	San Diego, CA	Research, synthesis, analysis of alkali doped C60 for neutron detection; nuclear sensors. Tasking and Funding Documents
ASN (I&E)	Washington, DC	Environmental Issues; Coastal America Reg. Coordination. Tasking and Funding Documents
NAVFACENGCOM	CONUS	Applied Research for Environmental Programs; Marine Environmental Support Office; Site Characterization and Analysis Penetrometer System; Bioremediation; Ecological Risk Assessments; Special Assistant. Tasking and Funding Documents
NOAA	Washington DC	Bay mussel biomarkers study. Tasking and Funding Documents
		Support NOAA Fleet Replacement and Modernization Program. MOU in process
Philadelphia Naval Shipyard	Philadelphia, PA	Organ., analyses & env. evaluation (USS Leftwich and USS Kennedy). Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
US ARMY, Corps of Engineers	San Diego	Modelling; bioremediation; Vicksburg sediment research. Tasking and Funding Documents
Natick Research, Development and Engineering Center, U.S. Army	San Diego Natick, MA	Toxicity Testing for biodegradable products. Tasking and Funding Documents
US Environmental Protection Agency, Assessment Research Laboratory	Narragansett, RI	Special Assistant; MOU; Ecological Risk Methodology. Tasking and Funding Documents
NELO	Washington DC	Acquisition Support. Tasking and Funding Documents
		T&E. Tasking and Funding Documents
		Provide concept formulation, development of techniques, design and construction of prototype engineering models in support of special intelligence programs. Work Requests
SUBPAC	San Diego, CA	Modify Fleet deep submergence systems. Tasking and Funding Documents
SUBPAC and subordinate activities	Pacific Area	Develop, test and implement computer based information exchange subsystems and demand assigned multiple access systems. Tasking and Funding Documents
SURFPAC	San Diego, CA	Testing and Calibration of fleet sonar transducer units at TRANSDEC. Tasking and Funding Documents
SURFPAC and subordinate commands	Pacific Regional Area	C4I systems engineering for battle force systems and development of training and simulation systems. Tasking and Funding Documents
		Provide EM Environment (E3) support for Pacific fleet. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
CINCPACFLT	Pearl Harbor, HI	Support in the development and integration of their Crisis Management System. Tasking and Funding Documents
CINCPACFLT and subordinate Commands	Pacific Regional Area	Develop, test and implement computer based decision support systems and develop in-theatre connectivity. Tasking and Funding Documents.
		Develop and support special communications links (email, STUIII EHF contection). Tasking and Funding Documents
		Develop, test and implement computer based information exchange subsystems and demand assigned multiple access systems. Tasking and Funding Documents
AIRPAC and subordinate Commands	Pacific Regional Area	Design and development of aircraft carrier and battle force C41 systems such as ACDS and JTIDS. Tasking and Funding Documents.
		Design, installation and continuing support of SNTI voice network. Tasking and Funding Documents
		Provide and integrated operational status and readiness picture via the Standard Theatre Army C2 System. Tasking and Funding Documents
Submarine Division Group One	San Diego, CA	M&M Mod to Deep Submergence units; T&E for transition of search systems. Tasking and Funding Documents
PMO-403	Washington DC	TDA fulnctions for Mine Neutralization System. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
OSD	Washington DC	Technical Director for the Mobile Detection, Assessment and Response System (MDARS) (Research and development of command control for multiple robotic security systems. (software development)). MIPR System integration for Air Mobile Ground Suveillance System (AMGSS). MIPR
NCIS	SUBBASE Bangor and SUBBASE Kings Bay	Systems Manager for Waterside Security System (engineering, installation and life cycle management). Tasking and Funding Documents (WR/RC)
Department of Justice	San Diego, CA	Engineering and installation for Small Craft Detection. MOA/MIPR
JTF-4/JTF-5	Key West, FL Alameda, CA	Support in development and integration of systems, processes and procedures to utilize Navy/DOD INTEL and Surveillance resources in support of counter drug operations. Tasking and Funding Documents
		Provide systems engineering to develop the intelligence fusion center to support detection and monitoring of narcotics activities. Tasking and Funding Documents.
MARFORPAC	Pearl Harbor, HI	Provide DODIIS connectivity, database accesses, and JICPAC support via a network development. Tasking and Funding Documents
		Support in the development of a Marine Corps Anchor Desk for CINCPAC Theater of Operations. Tasking and Funding Documents
FAA	Washington, DC	Prec. Approach; Interagency Agreement
FAA (future work)	Nation-wide	Design and build moving target simulator for flight control and A/C radar testing. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ASN (RD&A)	World-wide	Provide systems engineering to develop the intelligence fusion center to support detection and monitoring of narcotics activities under tasking, funding documents.
PEO MIW/ PMO EOD	Washington DC San Diego, CA	Care & Maintenance of Marine Mammal, Marine Mammal RDT&E Technical Consultant Acquisition & outfitting. Product Improvement ISEA Configuration Control Technical Representative Engineering Support Depot Maintenance Spare Marine Mammals & Hardware Veterinary Support Documentation. Tasking and Funding Documents
COMEODGRP ONE, TWO, THREE OEODMU	World-wide	ISEA Technical Representative & OEODMU Depot Maintenance Spare Marine Mammals and Hardware Veterinary Support. Tasking and Funding Documents
National Marine Fisheries Service	Washington DC	Technical Consultant. Tasking and Funding Documents
USDA/APHIS	Greenville, MD	Veterianarian Training Technical Consultant. Tasking and Funding Documents
Marine Mammal Commission	Washington DC	Technical Consultant. Tasking and Funding Documents
USCINCPAC	Pearl Harbor, HI	Development and engineering support for OSS, CASES and collaborative crisis planning. Tasking and Funding Documents
JICPAC	Pacific Regional Area	Provide support to ensure interoperability between theater intelligence systems and apply new technology to intel problems. Tasking and Funding Documents
NAVCENT, Bahrain	Middle East	Development and support of the joint Maritime Operations Command Center. Tasking and Funding Documents.

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
CFC KOREA	Korea	Development and support of major wargames and simulations. Tasking and Funding Documents
USACOM	Atlantic Regional Area	Provide GCCS engineering and support. Tasking and Funding Documents
ACC LANGLEY	Command Center Langley AFB	Provide GCCS engineering and support. Tasking and Funding Documents
CINCUSNAVEUR	European Area	Development of C4I systems such as OSS. Tasking and Funding Documents
COC Keflavic	Icelandic Regional Area	Provide C4I systems engineering and further development of OSS. Tasking and Funding Documents
SACLANT	Atlantic Regional Area	Provide systems engineering, integration and technical support to the SACLANT C3I baseline system (Alpha CCIS). Tasking and Funding Documents
PACAF	Pacific Regional Area	Develop an integrated operational status and unit readiness picture form the Commanders Integrated Decision Support System. Tasking and Funding Documents
DMSO	Washington DC	Design, develop and demonstrate worldwide interoperable simulation and modelling. MOA, Tasking and Funding Documents
Government of Singapore	Singapore	Software IV&V to support FMS sales of E-2C aircraft. Tasking and Funding Documents
Government of Israel	Israel	Software IV&V to support FMS sales of E-2C aircraft. Tasking and Funding Documents
Government of Egypt	Egypt	Software IV&V to support FMS sales of E-2C aircraft. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Government of Australia	Australia	Provide systems engineering, integration installation and training support for OBU systems purchased under FMS. Tasking and Funding Documents
Government of UK	UK	Provide systems engineering, integration installation and training support for OBU systems purchased under FMS. Tasking and Funding Documents
Government of Taiwan	Taiwan	Software IV&V to support FMS sales of E-2C aircraft. Tasking and Funding Documents
		Provide EMC training and topside system design. Tasking and Funding Documents
Government of France	France	Software IV&V to support FMS sales of E-2C aircraft. Tasking and Funding Documents
NAVOCEANO	Stennis Space Center, MS	Support strategic and multi-mission survey system programs. MOU and Funding Documents
GPS Joint Program Office	World-wide	Provide engineering services, new concepts initiatives, and RDT&E support to the GPS Program. MOU
UK Ministry of Defense	Portland, England	Provide a total "TURN-KEY" Ocean Survey System. SSPO Polaris Sales Agreement
SAF/DSPO Secretary of the Air Force Defense Support Project Office	World-wide	Classified program support. Tasking and Funding Documents
PEO (CU)	Washington DC	TLAM tech support. Tasking and Funding Documents
46 Test Group (U.S. Air Force)	Alomogorda, NM	GPS lab T&E. MIPR

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
MCAS Cherry Point	Cherry Point, NC	KC-130 Integ. Work Request
SMC (USAF)	Los Angeles, CA	GPS devel. & test. MOU
NADEP	Cherry Point, NC	ARC-210. Work Request
Aviation Electronics Combat, U.S. Army	St. Louis, MO	Embed. Dop. Work Request
NAVSPACOM	Dahlgren, VA	Provide system engineering support in the installation, integration and test of the Relocatable Over the Horizon Radar. Work Requests
Commander, Undersea Surveillance, Pacific/ Commander, Undersea Surveillance, Atlantic	Ford Island, HI/Norfolk, VA	Provide engineer-ing support in the maintenance of the following fielded Integrated Undersea Surveillance System subsystems: Target Data Processor, Universal Communication Processor, Inter-Array Communications/Inter-Array Processor, and Integrated Communication System. Work Requests Additional IUSS support relations. Work Requests Support in integration and test and evaluation of systems being developed for operational introduction into the IUSS facilities and commands. Work Requests
Navy Tactical Support Activity	Silver Springs, MD	Support for development and maintenance of ASW documentation in the NWP 16 and NWP 24 series. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
CTF-12/CTF-84/ CTF-66	Honolulu, HI Norfolk, VA Naples, Italy	Support in the development, integra-tion, exercise reconstruction test and evaluation of systems for communi-cations, command and control, and data fusion for the respective Theater ASW commanders. Long term contin-uous support in planning and coordina-tion of activities associated with exercises under operational control of these Theater Commanders. Tasking and Funding Documents
Operational Support Office	Washington DC	Provide: Engineering support in the design, development and testing of the Tactical Data Dissemination System (TDDS) which includes day-to-day operational support of the operational Tactical Related Applications (TRAP) Broadcast System, software and hardware enhancements, systems engineering and concept development. Work Requests Hardware development, hardware fabrication and Inventory Control of hardware required for TRAP and TDDS. Work Requests Engineering support to the AN/USQ-101 (V) Tactical Receive Equipment system which receives, decrypts, filters, formats, and distributes incoming Tactical Data Information Exchange System (TADIXS B) data to tactical data processors. Work Requests An in-house laboratory facility to provide testbed facilities and testing expertise for TRE/TRAP and related equipment, hardware and software enhancements and exercise support. Software development, integration and test for a highly miniaturized C4I terminal being procured to meet USSOCOM, Navy, and Air Force near-

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Operational Support Office (OSO) (Cont'd)		term tactical intelligence broadcast reception and data processing require-ments for space and weight constrained platforms. Work Requests Engineering support to develop, test and evaluate a reprogrammable Multi-Chip Module (MCM) to allow embedding up to four different cryptos in a single device. Work Requests
NSG	Washington DC	Provide test and evaluation support for selected sub-marine and shore-based cryptologic systems and to provide system development for special collection and analysis platforms. Work Requests
NSGA	Edzell, Scotland, UK	Provide technical and operator assistance for NRaD-developed cryptologic systems. Work Requests
NSGA	Misawa, JA	Provide technical and operator assistance for NRaD-developed cryptologic systems. Work Requests
NSGA	Rota, SP	Provide technical and operator assistance for NRaD-developed cryptologic systems. Work Requests
NSGA	Kunia, HI	Provide technical and operator assistance for NRaD-developed cryptologic systems. Work Requests
NSGA	Pensacola, FL	Provide software support for non-trivial modifications to NRaD-developed deployed shore-based cryptologic systems. Work Requests
MCTSSA	Camp Pendleton, CA	Provide modification of and training on selected Navy cryptologic systems as applied to Marine Corps environments. Work Requests
Marine Corps Systems Command	Quantico, VA	Develop portable cryptologic system. Work Requests

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Defense Research and Engineering Network	Washington DC	Host, operate and maintain an Intel Paragon Digital Supercomputer, and provide services to DoD scientists and engineers at Army, Navy, and Air Force labs nationwide via Defense Research & Engineering Network. MOU and Work Requests
Public Health Service	Seattle, WA	Develop and test analytic models and signal detection theory for use in operational illness and injury contingency management protocol formulation. MOU
NIC	Alexandria, VA	Develop adaptive signal processing technology and provide state of the art surveillance hardware for Fleet use during special operations. Work Requests
Supreme Allied Commander, Atlantic Undersea Research Center	Norfolk, VA	Develop acoustic element localization algorithms applicable for the Supreme Allied Commander Atlantic Undersea Research Center acoustic arrays. Purchase Orders
JPO-UAV	Arlington, VA	Provide technical assistance with the communication links for UAV's. Tasking and Funding Documents
EMDO/TNI	Washington DC	Provide technical and management support for the Dection and Experimentation Program, signal processing efforts and the SB Program. Tasking and Funding Docuements
Phillips Laboratory, Kirtland AFB, U.S. Air Force	Albuquerque, NM	Provide management and technical support for the unconventional imaging program. Tasking and Funding Documents
NSA/NSG/NSC	Washington, DC	Provide technical and management support for the STARCROSS and Classic Crystal programs

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
USMC	MCTSSA, CA MCLB Barstow, CA/Albany, GA/ Quantico, VA	Design, development and installation of switching systems and networks. Provide E3 program support, antenna design. Tasking and Funding Documents
TTCP	UK, Canada, Australia, US	Develop an international ATM test facility (MOA).
AUSCANNZUKUS	UK, Canada, New Zealand, US	Provide analysis of communications systems to ensure Allied Interoperability. Tasking and Funding Documents
Government of Canada	Canada	Provide topside communication system design and testing for Canadian Patrol Frigate. Tasking and Funding Documents
Government of Saudia Arabia	Saudi Arabia	Provide frigate topside design and testing. Tasking and Funding Documents
HANSCOM AFB	Bedford, MA	Provide technical support to strategic connectivity system. Support HIDAR (High Data Rate and Mode Engineering) and reduce EAM delivery time on VLF/LF LDR links. Provide VLF/LF LDR transmission of long messages. Tasking and Funding Documents
Marine Corps Systems Command	Quantico, VA	Systems engineering and test for ship/shore communications and for Intentionally Short Range Communications.
SUBLANT	Atlantic Area	Develop, test and implement computer based information exchange subsystems and demand assigned multiple access systems. Tasking and Funding Documents
Government of UK	UK	Develop, test and implement Royal Navy submarine information exchange subsystem. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Government of Canada	Canada	Develop, test and implement officer in tactical command information exchange subsystem. Tasking and Funding Documents
US Marine Corps Activities	World-wide	Provide software support for the Tactical Receive Equipment. Tasking and Funding Documents
US Air Force	World-wide	Provide software support for the Tactical Receive Equipment. Tasking and Funding Documents
US Army	World-wide	Provide software support for the Tactical Receive Equipment. Tasking and Funding Documents
US Army	Huntsville, AL	Cooperative development and technology transfer of missile assembly manufacturing technology. Tasking and Funding Documents
US Customs	Washington DC	Research and development of inspection instrumentation. Interagency Agreement
NAVAL Aviation Depot	NAS North Island	Development and engineering support to analyze, design, document, procure, fabricate, and assemble electronic equipment for avionics testing. Tasking and Funding Documents
US Air Force	Dayton, OH	Cooperative development technology transfer of microwave transmit receive manufacturing technology. Tasking and Funding Documents
AFSPCECOM	Colorado Springs, CO	Conduct analyses, perform technical assessments, prepare engineering studies and provide program management support for EHF programs. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
SMC/MJPO	Los Angeles, CA	Provide tri-service Milstar satellite compatibility test and evaluation support. Tasking and Funding Documents
USSPACECOM	Cheyanne Mtn. AFB, CO	Design and development of workstations for RFI resolution. Tasking and Funding Documents
Marine Physical Lab, Scripps Institute of Technology	San Diego, CA	Support calibration and testing of optical oceanographic systems. Tasking and Funding Documents
SECDEF	Washington DC	Provide analytical support for planned optical and RF systems. Tasking and Funding Documents
ONR	Washington DC	Provide support for Wide Area Undersea Surveillance in the Block Program Activities including; Multistatic Active, Acoustic Sources, Distributed Surveillance, Non Acoustic Distributed System Components, and Spatial Processors. Work Requests
		Technology work in the areas of Navigation, Airborne Communications, RF Devices and Avionics Systems. Tasking and Funding Documents
		Research in Unmanned Underwater Vehicle (UUV) command and technology. Tasking and Funding Documents
		Provide support for Wide Area Undersea Surveillance in the Block Program Activities including; Multistatic Active, Acoustic Sources, Distributed Surveillance, Non Acoustic Distributed System Components, and Spatial Processors. Work Requests
		Research and development of technology to support C4I systems under Block Program Plans. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ONR (cont.)	Washington DC	Technology research and Advanced Technology Demonstrations in the area of Surveil-lance Data Fusion, Distributed and Optical Processing. Work Requests High Gain and HyDOP Conduct research, sea tests, analysis and reporting in active and passive undersea surveillance. Emphasis on matched field processing, acoustic array design, and supercomputer processing. Develop the technology to classify submarines in bottom limited oceanographic regions. Develop and operate acoustic surveillance technology testbed on Paragon super computer. Work Requests Develop theory and analytical tools for the application of wavelets to filtering, detection, and noise suppression. Derive, test, and documuent the class of statistical methods for the Infra Red Fluctuation target problem based on an alternative hypothesis that the signal is present in some subset of the sample taken.. Work requests Support in development of technology to address acoustic warfare, undersea warfare, and data fusion Fleet requirements. Work Requests. Implement the Navy Space Test Program (STP) to obtain spaceflight for Navy Research and Development experiments via liaison with AF Space Test and Small Launch Vehicle Program Office at the Space and Missile Systems Center (SMC), Los Angeles. Tasking and Funding Documents Provide research in the application of parallel Navy Research and Development experiments via liaison with the AF Space Test and Small Launch

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ONR (Cont'd)		in the application of parallel computers to shipboard infra-red search-and-track (SIRST); to manage the High-Performance Computing (HPC) project; to provide Tri-Service coordination of HPC R&D through the Joint Directors of laboratories project RELIANCE; and to provide international coordination of HPC activites through chairing the TTCP XTP3 technical pancel. Work Requests
		Research and development of technology to support the Communications and Networking Block Program. Tasking and Funding Documents
		Research, analysis, test and evaluation support for Block Programs. Tasking and Funding Documents
		Develop technology needed to reduce manufacturing lead times, product defects, and cost of Defense acquisitions. Tasking and Funding Documents
		Advanced technology development to detect and classify nontraditional acoustic signals. Funding Document (WX)

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ONR	World-wide	Basic research in high temperature superconductive films & CMOS. metal combustors Program management of Deployable Arrays Program; research in Stochastic Resonance, porous electrodes for energy conversion, Program management and research of Active Flow Control, Research, Test planning data collection and analysis for Dolphin hydrodynamics; R&D in NRaD's mission areas: command, control, surveillance, communications, navigation. Tasking and Funding Documents
		Advanced Sensors for Cone Penetrometer; Contaminant Dispersal Model for San Diego Bay; Non-polluting Fouling Release Hull Coatings; 6.1 Copper Ion Electrode Research Basic Marine Mammal biological research, technical proposal review and technical consultation. Alternative hardware technology development, mission area definition. T&E for Development of underwater comms system Advanced R&D of microelectronics. Tasking and Funding Documents
ONR	Washington, DC Canada, France, Germany, Netherlands (Shape Technical Center)	Research, development test, evaluation, modeling of communication technology, components, and systems. Tasking and Funding Documents
NAVSEA	Arlington, VA	Provide TR 338 Transducer support, serves as TDA for VLA including production support and T&E, and advanced MK 46 design work. Work Requests

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NAVSEA	Arlington, VA	M&M Mod to Deep Submergence units; T&E for transition of search systems. Tasking and Funding Documents
		Engineering, design, fabrication, installation, materials and personnel support of USS Dolphin. Tasking and Funding Documents
		Logistics, photographic and personnel support of special FORACS project. Tasking and Funding Documents
		Design, development, test, and evaluation of C4I systems for all CV's and ampibs. Tasking and Funding Documents
		Support numerous shipboard Navigation system developments and the T-AGS 60 Class Ship Echo Sounding System. Tasking and Funding Documents
		Provide TR 338 Transducer support, serve as TDA for VLA including production support and T&E. Work Requests Design and develop-ment of a multiple-beam passive sonar system and the processing hardware and software required for the Torpedo guidance system. Work Requests Conduct at sea High Frequency acoustic target strength measure-ments, analyses and target modeling test and evaluation support for ping to ping sonar system development. Work Requests Support numerous Radar Cross Section and related ship measurement programs. Work Requests

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NAVSEA	Arlington, VA	Design, develop, test, evaluation, installation and support of communications systems and tools, networking and switching systems. Management & support of EMC database. Tasking and Funding Documents
		Provide Trident IRR hardware maintenance, problem solving support for IRR acquisition which includes problem evaluation, failure analysis, in-service design, logistic support and technical manual maintenance. Provide life cycle support for MLTS software. Tasking and Funding Documents.
		System engineering for optical communications. Tasking and Funding Documents
		Develop manufacturing technology for benefit to Cooperative Engagement Capability program; perform technology forecasting for AEGIS program. Tasking and Funding Documents
		Life Cycle Support for Ada Language System/Navy (ALS/N). Tasking and Funding Documents
		Develop the com-putational models and structure required to evaluate weapon systems, principally the G&C aspect, using digital computers. Work Requests
NAVSEA and Fleet Units	World-Wide	Engineering, design, fabrication, installation, materials, personnel and logistics support. Environmental assessment of Shipboard bilge and solid waste discarges; Organotin Antifouling Paint Env. Monitoring; SINKEX Risk Assessment Study. Tasking and Funding Documents.

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
NAVSEA and Fleet Units		Design, develop, test and evaluate submarine hydrophone test sets. Tasking and Funding Documents
COMNAVSECGRU	World-wide	High frequency propagation (NELO). Tasking and Funding Documents
COMNAVSECGRU	Washington DC	Develop and test optical and RF signal detection and analysis support for tri-service communications vulnerability tests. Tasking and Funding Documents
		Provide Wullenweber design model development and testing. Tasking and Funding Documents
NSA	Ft. Meade, MD	Research, development, engineering, contract administration, testing, analysis and reporting of high speed, ultra low power A/D and D/A converter technology. Tasking and Funding Document
		Optical engineering and T&E. Tasking and Funding Documents
		Provide engineering support and technology development for the Tactical Cryptologic Program. Work Requests Provide system development and system engineering support for selected joint cryptologic efforts. MIPR
NSA	Ft. Meade, MD - all US Ships	Develop and test cancellation techniques. Provide performance evaluation of network products. Tasking and Funding Documents
NSA/NSG/NSC	Ft. Meade, MD and Washington DC	Provide technical and management support for the STARCROSS and Classic Crystal programs. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Wright Laboratory, U. S. Air Force	Dayton, OH	Perform and coordinate Research and Development programs in the areas of airborne navigation and communications and to support the integration of GPS receivers on Air Force fighters. MOU and MIPRS
NAWC-WD	China Lake, CA	Logistics, radar and personnel support of NATACMS missile project, Hammerhead and ASPDDR project. Tasking and Funding Documents
		TLAM GPS SSA. Work Request
NAWC	Patuxent River, MD	TACAMO Engineering Hardware and Software Support for various communication systems. Tasking and Funding Documents
CINCLANTFLT	Norfolk, VA	Support in the development, implementation, deployment, training and test and evaluation of a GLOBIXS to support ASW operations for the LANTFLEET Commander. Tasking and Funding Documents
		Provide support and integration of new systems into the shipboard network. Develop moving target simulation for maintenance and training. Tasking and Funding Documents
		Develop and support Satellite Communications for test and demonstrations. *CLF initiative and JWID 95*
CINCLANTFLT and Subordinate Commands	Atlantic Regional Area	Develop, test and implement computer based information exchange subsystems and demand assigned multiple access systems. Tasking and Funding Documents
		Provide C4I systems engineering and support. Tasking and Funding Documents.

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
ONI	Washington, D.C	Provide engineering support in development of special purpose electromagnetic and electro-optical sensors. Work Requests
ONI and Navy Activities	Worldwide	Develop secure multi-level C4I systems and analysis support. Tasking and Funding Documents.
Rome Laboratory, U. S. Air Force	Rome, NY	Develop secure distributed system technology to integrate the Services Information database, decision aids and processing. Tasking and Funding Documents
		Provide system engineering to ensure joint service. Tasking and Funding Documents
		Explore the design of massively parallel processors for spaceborne surveillance sensors. MIPRS
DISA	Washington, DC	Provide C4I systems engineering support. Tasking and Funding Documents
		Engineering support in joint services development of MIL-STD's and Concept of Operations development for UHF Satellite Communications. Provide analysis support for Commercial Satellite Communications Initiative. Tasking and Funding Documents
BMDO	Washington	Manage the BMDO/IS&T program in Advanced Processor Architectures; and to perform research in sensor-processing algorithms. Tasking and Funding Documents
		Develop simulate targets for evaluation Defense of missile and re-entry vehicle tracking systems. Tasking and Funding Documents

Activity name	Location	Support function (include mechanism such as ISSA, MOU, etc.)
Marine Corps Systems Command	Quantico, VA	Systems and software engineering for C4I systems such as amphibious assault planning tools, tactical air support module and MAGTF Tactical Warfare System. Tasking and Funding Documents.
		Develop portable cryptologic system. Tasking and Funding Documents
		Systems engineering and test for ship/shore communications and for Intentionally Short Range Communications. Tasking and Funding Documents
COMNAVCOMTELCOM	Washington, DC	Provide operational system submarine communications support for fielded Fixed Site Sytems for Transmit/Report Back purposes, e.g., MAYFLOWER, ISABPS, VERDIN. This support includes hardware/software upgrades. Tasking and Funding Documents
		System design, installation, test, and training for UHF satellite communications equipment at worldwide field locations.

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.)

ITEMS PROVIDED	CONTENTS
12 notebooks	Each notebook contains its own set of land ownership and restrictions maps, ecological reserve maps, building identification lists, base maps, and aerial photos of this command. The aerial photos were done in 1991. We are endeavoring to get a complete set of current aerial photos that will include recent changes. Same will then be submitted.
Large Maps	Contains two 36" x 42" land ownership and restrictions maps and two 36" x 42" ecological reserve maps (4 maps) and two complete sets of 36" x 42" base maps (30 maps).

UIC	SPONSOR	REIM	DC	TOTALS	WY	SM	TYPE	CO
N00039	Total	143072.6	62297.2	205369.8	570.7			0
N00024	Total	55023.9	25695	80718.9	250.5			0
[illegible]	Total	57054.4	15697	72751.4	245.3			0
[illegible]	Total	10635.5	35513	46148.5	41.6			0
N[illegible]	Total	24741.3	5928.8	30670.1	119.6			0
N00019	Total	13816.9	15887	29703.9	53.7			0
N60921	Total	9937.2	11539.2	21476.4	46.6			0
N66604	Total	14137.4	519.8	14657.2	47.3			0
N0464A	Total	9578.9	4716.5	14295.4	30.1			0
N63152	Total	12778.6	125.5	12904.1	80.9			0
N00030	Total	7966.3	391.9	8358.2	28.5			0
M95450	Total	3643.4	3169.1	6812.5	18.7			0
HR0011	Total	3079.7	3700.7	6780.4	3.6			0
N00167	Total	5468.2	411.1	5879.3	14.8			0
N62306	Total	5307.7	464.9	5772.6	26.2			0
N00173	Total	4276.6	690.4	4967	15.4			0
N62269	Total	3621.5	145.8	3767.3	18.6			0
H98230	Total	3097.9	602.8	3700.7	16			0
N00015	Total	3078.1	546.9	3625	12			0
N00038	Total	3409.1	191.2	3600.3	6.7			0
N00070	Total	2724.6	630.7	3355.3	10.9			0
N00025	Total	2640.6	195	2835.6	8.6			0
AF0012	Total	1378.2	1264	2642.2	7.8			0
N57025	Total	2339.2	130	2469.2	0.2			0
N00253	Total	1622.7	828.2	2450.9	8.3			0
N63274	Total	579.8	1685.7	2265.5	1.4			0
N00022	Total	1717.2	412	2129.2	8.1			0
N68940	Total	2104.3	0	2104.3	0			0
N00063	Total	2028.9	0	2028.9	4.9			0
N68166	Total	1989.3	0	1989.3	5			0
DODWHS	Total	1518.6	399.4	1918	5.2			0
[illegible]	Total	1282.8	628.3	1911.1	6.5			0
[illegible]	Total	399.8	1380	1779.8	2			0
N[illegible]	Total	1434.2	174.8	1609	5.9			0
AF0004	Total	1581.7	0	1581.7	0.2			0
DCA-05	Total	1099.1	256.6	1355.7	3.5			0
N60530	Total	1354.4	0	1354.4	7			0
N00066	Total	493.2	744.4	1237.6	2.3			0
HQ0023	Total	91.7	1138.1	1229.8	0.3			0
N00421	Total	1076.5	139.7	1216.2	4.9			0
HHM440	Total	1197.4	0	1197.4	0.6			0
N65576	Total	1163.9	0	1163.9	12.5			0
N66001	Total	1152	0	1152	1.1			0
M67854	Total	389.6	719.3	1108.9	1.9			0
N68944	Total	917.1	172.2	1089.3	3.5			0
AF0062	Total	1088.5	0	1088.5	2			0
N00163	Total	1083.9	0	1083.9	1.3			0
N65888	Total	1069	0	1069	4.1			0
N63394	Total	326.8	699.2	1026	1			0
N00164	Total	949.3	34.4	983.7	0.1			0
N64281	Total	907.9	73.9	981.8	3.2			0
N62470	Total	885.8	65.4	951.2	0.9			0
CG-009	Total	893.5	0	893.5	0.8			0
AF0049	Total	191.4	650	841.4	1.1			0
A-0028	Total	823	0	823	4.9			0
DIA-01	Total	789	0	789	2.7			0
A-0052	Total	770.1	0	770.1	3.7			0
DCA-02	Total	372.3	382.1	754.4	2.5			0
N68389	Total	718	0	718	0.7			0
N47853	Total	537.8	115.6	653.4	1.5			0
N4[illegible]	Total	608.8	0	608.8	1.6			0
[illegible]	Total	578.4	0	578.4	0.4			0
N[illegible]	Total	546.1	0	546.1	0.9			0
AF0016	Total	162.1	364	526.1	0.7			0
N00069	Total	514.2	0	514.2	3.1			0
FY7616	Total	221.7	288.9	510.6	1.1			0
N00100	Total	504.9	0	504.9	1.2			0

Attachment A

Activity : N0000

N65580 Total	473.2	25.7	498.9	3.2	0
N65980 Total	281.1	214.1	495.2	0.6	0
DNA-01 Total	483.6	0	483.6	2.8	0
N[illegible] Total	475.7	0	475.7	3.2	0
N[illegible] Total	231.8	227.8	459.6	0.3	0
N[illegible] otal	449.3	0	449.3	1	0
A-[illegible] Total	205	226.2	431.2	0.8	0
A-0084 Total	177	252.4	429.4	0	0
P-WEC Total	428.1	0	428.1	0	0
N00046 Total	274.9	144.2	419.1	1.5	0
AF0013 Total	412	0	412	3	0
W81PUD Total	411.8	0	411.8	1.5	0
DOE-03 Total	404.8	0	404.8	1.6	0
FY7620 Total	169.2	225.3	394.5	0.2	0
AF0042 Total	381.7	0	381.7	1	0
R31296 Total	379.6	0	379.6	2.1	0
W8007P Total	123.1	232.1	355.2	0.8	0
6585TG Total	12.8	336	348.8	0.1	0
RP0007 Total	248.1	61.9	310	0.3	0
AF0066 Total	299.3	0	299.3	1.5	0
N63165 Total	298.5	0	298.5	0.7	0
W15BW9 Total	296.9	0	296.9	1.6	0
A-0004 Total	286.7	0	286.7	1.6	0
N00109 Total	24.3	254.5	278.8	0.1	0
N63084 Total	151.7	127.1	278.8	1	0
A-0056 Total	69.3	206.9	276.2	0.3	0
AF0033 Total	0	271.9	271.9	0	0
N00075 Total	258.5	0	258.5	1.7	0
F6AWC1 Total	131.9	120	251.9	0.8	0
W45N7V Total	8.8	238.9	247.7	0	0
A-0012 Total	236.9	0	236.9	1.6	0
DMA-01 Total	234.7	0	234.7	0.9	0
N[illegible] Total	229.7	0	229.7	0.2	0
A[illegible] otal	15.7	206.2	221.9	0	0
FA[illegible] .otal	213.1	0	213.1	0.7	0
N39353 Total	40.7	168	208.7	0.2	0
R55602 Total	200.7	0	200.7	0.1	0
N00033 Total	132.8	65	197.8	0.6	0
AF0063 Total	189.3	0	189.3	1.3	0
A-0040 Total	104.5	75	179.5	0	0
N63406 Total	103.7	70.9	174.6	0.4	0
AF0007 Total	169.9	0	169.9	0.4	0
FQ7619 Total	167.6	0	167.6	0.8	0
N65913 Total	165	0	165	0	0
P-RACO Total	152.4	0	152.4	0	0
M00027 Total	142.9	0	142.9	0.3	0
N47854 Total	142.4	0	142.4	0.1	0
W81GN8 Total	140.5	0	140.5	0.1	0
USCS-1 Total	139.4	0	139.4	0	0
HQ0011 Total	133.7	0	133.7	0.1	0
JM1004 Total	126	0	126	0.1	0
AF0027 Total	123.4	0	123.4	0.3	0
N65584 Total	123	0	123	0.8	0
N68335 Total	113.8	0	113.8	0.7	0
A-0055 Total	112.7	0	112.7	0.7	0
N68524 Total	105.4	0	105.4	1.9	0
N68221 Total	91	11.1	102.1	0.1	0
N45406 Total	101.7	0	101.7	0.5	0
N65236 Total	100.8	0	100.8	0	0
P-PENN Total	100.5	0	100.5	0.5	0
V00060 Total	99.5	0	99.5	0.5	0
N0017A Total	94.3	0	94.3	0.6	0
W[illegible] Total	3	86.8	89.8	0	0
A[illegible] otal	4.4	82.4	86.8	0	0
DO[illegible] Total	86	0	86	0	0
P-SONL Total	84.1	0	84.1	0.5	0
AF0024 Total	83.4	0	83.4	0.5	0
P-BUND Total	81.4	0	81.4	0	0
N62852 Total	80	0	80	0	0

AF0029 Total	76.7	0	76.7	0.3	0
A-0079 Total	40.2	35	75.2	0.2	0
AF0023 Total	10.4	62.8	73.2	0.1	0
FY Total	72.1	0	72.1	0.3	0
N Total	72.1	0	72.1	0	0
A otal	70.1	0	70.1	0.4	0
N63116 Total	64.3	0	64.3	0	0
R55447 Total	62.7	0	62.7	0	0
A-0081 Total	61.7	0	61.7	0.4	0
W26CJU Total	61.2	0	61.2	0.5	0
W81KJF Total	60.5	0	60.5	0	0
N00060 Total	60.3	0	60.3	0.4	0
A-0085 Total	59.9	0	59.9	0.3	0
N63387 Total	59.8	0	59.8	0	0
W81EWF Total	55.6	0	55.6	0.3	0
N63126 Total	51.6	0	51.6	0.1	0
N68592 Total	51.2	0	51.2	0	0
N68711 Total	50.7	0	50.7	0.2	0
N60701 Total	32.8	16.5	49.3	0	0
AF0073 Total	43.1	0	43.1	0	0
P-GRUM Total	42.8	0	42.8	0.3	0
N68305 Total	42.5	0	42.5	0.1	0
N00074 Total	42.3	0	42.3	0.1	0
N00161 Total	40.7	0	40.7	0.3	0
N68869 Total	40.3	0	40.3	0	0
A-0089 Total	0	37.7	37.7	0	0
M62204 Total	35.2	0	35.2	0.3	0
FO4611 Total	35	0	35	0	0
N61339 Total	33.7	0	33.7	0.2	0
USCS Total	33	0	33	0	0
AF0070 Total	31.6	0	31.6	0.2	0
N68560 Total	30.1	0	30.1	0.2	0
A Total	29	0	29	0.3	0
P Total	28.7	0	28.7	0	0
N Total	25.6	0	25.6	0	0
W26218 Total	25.4	0	25.4	0	0
HC1027 Total	25.3	0	25.3	0	0
W31RPD Total	24.7	0	24.7	0.2	0
N47039 Total	23.9	0	23.9	0	0
P-AARC Total	23.8	0	23.8	0.2	0
N60258 Total	23.7	0	23.7	0.1	0
N63154 Total	23.3	0	23.3	0	0
N00251 Total	22.7	0	22.7	0	0
803303 Total	22.6	0	22.6	0.2	0
R05072 Total	20.7	0	20.7	0	0
P-ITC Total	19.7	0	19.7	0	0
P-NESB Total	19.4	0	19.4	0	0
P-SPAR Total	18	0	18	0	0
P-ANTE Total	17.6	0	17.6	0	0
P-MAGN Total	17.4	0	17.4	0	0
R57020 Total	16.5	0	16.5	0	0
AF0003 Total	16.1	0	16.1	0	0
P-LANL Total	15.7	0	15.7	0	0
AF0075 Total	15.5	0	15.5	0.1	0
N62676 Total	15.3	0	15.3	0.1	0
A-0086 Total	7.9	7.2	15.1	0	0
P-UCSD Total	15	0	15	0	0
AF0074 Total	14.8	0	14.8	0.1	0
FY9394 Total	14.8	0	14.8	0.1	0
N68847 Total	14.6	0	14.6	0.1	0
P-APL2 Total	14.5	0	14.5	0.1	0
DTIC Total	14.1	0	14.1	0	0
P Total	13.9	0	13.9	0	0
A Total	13.8	0	13.8	0.1	0
AF0040 Total	13.4	0	13.4	0	0
N31149 Total	13	0	13	0.1	0
N68561 Total	12.8	0	12.8	0	0
P-HUGH Total	12.7	0	12.7	0	0
R53824 Total	12.3	0	12.3	0.1	0

ACTIVITY : N66001

CG-016 Total	12	0	12	0.1	0
P-PERE Total	11	0	11	0	0
N42166 Total	10.4	0	10.4	0.1	0
[illegible] Total	10.4	0	10.4	0.1	0
[illegible] Total	9.8	0	9.8	0.1	0
[illegible] Total	9.5	0	9.5	0	0
N[illegible]5 Total	8.8	0	8.8	0.1	0
AF0064 Total	8.5	0	8.5	0.1	0
N63057 Total	7.2	0	7.2	0	0
AF0038 Total	0	7.1	7.1	0	0
P-HERM Total	7.1	0	7.1	0	0
A-0083 Total	6.5	0	6.5	0	0
CG-017 Total	6.5	0	6.5	0	0
V57016 Total	6.4	0	6.4	0	0
P-WHOI Total	6.3	0	6.3	0	0
R30200 Total	6.3	0	6.3	0	0
W73DMT Total	0.9	4.8	5.7	0	0
V46580 Total	5.4	0	5.4	0	0
809101 Total	4.9	0	4.9	0	0
P-NOSC Total	4.9	0	4.9	0	0
R44884 Total	4.9	0	4.9	0	0
N45772 Total	4.8	0	4.8	0	0
N62271 Total	4.6	0	4.6	0	0
N63015 Total	4.4	0	4.4	0	0
S47001 Total	4.2	0	4.2	0	0
NIST Total	4.1	0	4.1	0	0
DFAS-1 Total	3.5	0	3.5	0	0
N45534 Total	3.4	0	3.4	0	0
V55322 Total	3.3	0	3.3	0	0
N57016 Total	3.2	0	3.2	0	0
N00174 Total	2.9	0	2.9	0	0
FL5260 Total	2.8	0	2.8	0	0
[illegible] Total	2.8	0	2.8	0	0
[illegible] Total	2.8	0	2.8	0	0
[illegible] Total	2.5	0	2.5	0	0
FY7625 Total	2	0	2	0	0
HQ0112 Total	2	0	2	0	0
N62472 Total	1.8	0	1.8	0	0
P-PLFC Total	1.7	0	1.7	0	0
A-0009 Total	1.4	0	1.4	0	0
A-0087 Total	1.3	0	1.3	0	0
AF0065 Total	1.3	0	1.3	0	0
V55722 Total	1.2	0	1.2	0	0
N46828 Total	1	0	1	0	0
P-FMC Total	0.8	0	0.8	0	0
N44466 Total	0.7	0	0.7	0	0
CG-004 Total	0.6	0	0.6	0	0
P-APL Total	0.6	0	0.6	0	0
P-ALAS Total	0.5	0	0.5	0	0
N61665 Total	0.4	0	0.4	0	0
N55721 Total	0.3	0	0.3	0	0
R55321 Total	0.3	0	0.3	0	0
N00104 Total	0.2	0	0.2	0	0
FD2030 Total	0.1	0	0.1	0	0
N09173 Total	0.1	0	0.1	0	0
Z70098 Total	118	0	118	0.1	0
Grand Total	457698.9	205907.2	663606.1	1855.5	0

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 KIRK E EVANS, USN	
NAME (Please type or print)	Signature
Commanding Officer	2-10-94
Title	Date
NCCOSC RDTE DIV	
Activity	

See Revised Data Call

Joint Cross-Service Laboratories Data Call #12

for the

Director of Defense Research and Engineering
1995 Base Realignment and Closure Laboratories
Joint Cross-Service Group

19 May, 1994

Prepared for:
Commander
Space and Naval Warfare Systems Command
Washington, DC 20350

Prepared by:
Commanding Officer
Naval Command, Control and Ocean Surveillance Center
Research, Development, Test and Evaluation Division
San Diego, CA 92152-5001

BRAC-95
JOINT CROSS-SERVICE LABORATORIES DATA CALL #12

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SECTION II: CAPACITY OF DOD COMPONENTS

2.1 Workload. Use the following table to describe historic and projected workload at each 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 ($M)	557	601	577	602	602	609	639	693	630	593	596	596
Total Actual Funds ($M)	551	631	576	623	671	648	663	733				
Information	3812	3630	3680	3722	3705	3619	3841	3746	3146	2868	2808	2738
Actual Workyears	3834	3699	3774	3666	3694	3672	3905	3638				

- 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 Department.

Workyears = government personnel and on-site FFRDCs and SETAs

NCCOSC RDTE DIV NOTES:

NCCOSC RDTE DIV was established on 2 Jan 92. Since then, the following changes have occurred: personnel and facilities were removed at the Hawaii Lab, Arctic Lab, and Morris Dam facilities; personnel were removed from the Torpedo and Fire Control Programs; and personnel and facilities were added from FCDSSA San Diego, NSSA Los Angeles, Philadelphia Detachment, and Warminster Detachment.

For Table 2.1, UICs N63152 (FCDSSA, SD) and N65576 (NSSA) are included from FY92 through FY97. In FY92, FCDSSA and NSSA were Resource Management System (RMS) activities. In FY93, they were RMS for approximately one quarter of the fiscal year. Additionally, the following significant considerations were made for Table 2.1: the Philadelphia and Warminster Detachments are included for all years; FFRDC workyears are included in all actual workyears; the actual workyears for FY92 and FY93 were estimated for FCDSSA and NSSA; all funds include direct cite and reimbursable; and the workyears

include civilian regular, civilian overtime and military workyears. Since budgets have not been prepared for FY96 and FY97, the total funds budgeted are based on current estimates.

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

Excess "Lab" Capacity = 3905 (Actual FY92) - 2738 (Prog. FY97) = 1167 workyears.

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.

OVERALL MAJOR CAPABILITIES
- **Extensive staff knowledge and experience.**
- **In-place networked laboratories and facilities.**
- **C4I modeling and simulation capabilities.**
- **Comprehensive engineering and technical capabilities.**
- **Record of success in joint programs.**

JOINT PROGRAM CAPABILITIES
- **Technical Staff with significant experience in joint programs.**
- **Over 18 major joint programs currently under development.**
- **Record of successful completion of numerous joint programs.**
- **Involved in joint navigation programs, joint C^2 programs, and joint communications programs.**
- **Joint intel capabilities.**
  - **Thirteen SCIFs in place with 40 thousand square feet of space.**
  - **600 members of the government technical staff cleared for special clearances and 300 contractors with similar clearances.**
- **Extensive experience in conducting joint operations and tests.**
- **Numerous personnel have served on joint staffs and in major command centers.**
- **Facility has demonstrated the capability to replace the CINCPACFLT Command Center in a recent major exercise.**

- Recently demonstrated capability to provide rapid C4I support and development during crises.
- Developed C4I systems that were used in Desert Storm, Somalia and Yugoslavia.
- Developed war game simulations and networks that are used by the Army and Air Force from Korea to Germany.
- Developed the C4I system that will evolve into the Global Command Control System (GCCS).
- Currently either developing or delivering C4I systems to seven foreign governments.
- Development and test facilities for Joint Tactical Data Systems (JTIDS) and networks.
- Science and Technology Program that is developing new C3I concepts, supporting Engineering Development Programs and enhancing System Improvement Programs.
- Resources to provide interoperability certification for joint programs, e.g., joint strike.
- Communications Systems Design, Development, Integration, and analysis.
  - Communications supporting C4I.
  - SATCOM Systems: Throughout the Frequency Range.
  - Hardware/Software Modeling and Simulation of Communications Systems.
- Electromagnetic Theory/Technology.
- Manages and executes Navy, Triservice, and Joint Communication programs: from design through installation and operational support.
- Is the principal full-spectrum RDT&E Laboratory for navigation sensors and systems for all platforms including ships, submarines, and aircraft.
- Is the principal full-spectrum DoD Laboratory providing RDT&E and life cycle support for the Ocean Survey Systems.
- Is the principal Navy RDT&E Laboratory for airborne communications equipment and airborne RF electronic devices.
- Supports non-DoD government agencies in the area of navigation and aircraft communications including: the Coast Guard, Federal Aviation Agency (FAA), and National Oceanic and Atmospheric Agency (NOAA).
- Software Process/Management Development.
- Networking Systems: Design/Implementation.
  - High-speed information networks that link the other service facilities and major command centers.
  - Leadership in developing open systems and applying evolutionary development.

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)

Adjacent to Fleet Operations: Allows facility to directly participate in Fleet exercises, as a Command Center and simulated ship.

HF Propagation range adjacent to the ocean: Provides an ocean ground plane for testing HF systems.

SHF/EHF Satellite Communication Test Facilities: It contains a complete SHF Satcom terminal and test equipment to support follow-on SHF equipment development. The location on Pt. Loma provides direct access to all conus operational satellites to allow participation in system tests and evaluations.

Southern California Communications Networking Test Range: This is composed of communications sites at Pt. Mugu, San Nicholas Island, San Clemente Island, Seal Beach and NCCOSC RDTE DIV. NCCOSC RDTE DIV maintains and controls these sites for use in multiforce communications testing and support of west coast Fleet Exercises.

The proximity of San Diego Bay to the NCCOSC NRaD Environmental Sciences Division Ocean Sciences Laboratory is key to the success of the Marine Environmental Quality Program. San Diego Bay, less than 100 yards from the Ocean Sciences Laboratory, is a marine embayment which supports the San Diego Naval Complex and several Cities surrounding the Bay. The bay is used constantly by the Environmental Sciences Division as a resource and test bed for environmental quality RDT&E. Specifically, the Bay is necessary and used for the following purposes:

1) San Diego Bay is the source of pumped sea water into the Ocean Sciences Laboratory and the Portable Environmental Test Facility for marine biological and chemistry studies to evaluate Navy environmental issues.

2) San Diego Bay is used as an effective test bed for environmental instrumentation, sensors and ecological risk assessment methods developed by Environmental Sciences Division. The close proximity of the San Diego Navy "Megaport" including Navy Fleet assets, shore facilities and environmental issues such as aquatic hazardous waste sites is needed for both effective technology demonstration and transfer. The proximity of full spectrum of Navy ships is important for on-going project to evaluate the impacts of shipboard effluents and hull coatings. The Navy Environmental Leadership Program site for the West Coast is North Island Naval, Air Station, with many Bay issues that will be addressed.

3) San Diego Bay is used extensively to develop and test coating materials for

Antifouling properties and durability; test the Marine Environmental Survey Capability (MESC) housed on a 40 ft craft and to provide a number of areas for the study of marine pollution, and housing marine mammals for environmental health and care research. Piers for small boats and the MESC system, as well as test platforms, are required in close proximity of the Ocean Sciences Laboratory to carry out ongoing RDT&E programs and to support the in-house Marine Environmental Support Office, a support office of the Naval Facilities Command, Naval Environmental Protection Support Service (OPNAVINST 5090.1A)

At the Warminster Detachment, the geologic conditions in Bucks County are unique. A feasibility study performed by the Kearfott Company in the late 1950's determined that Bucks County was an ideal site for a Navy Inertial Sensor Test Facility because of its low seismic noise level (10^{-5} to 10^{-6} g's), rare occurrence of seismic disturbances (such as earthquakes), and the proximity of the surface to bedrock. As a result of this study, a unique test facility was built in 1964. This building allows very precise measurement of inertial sensors and has demonstrated performance to a noise floor (vibration) of less than $1x10^{-6}$ g's and a stability of 0.8 arcsec in 40 days. These numbers are typical of performance levels required of inertial systems on submarines.

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)

WATER DISCHARGE PERMITS

- Water Discharge Permit 08-0017 (conn. no. 130) (City of San Diego Water Utilities Department)
-- Purpose: Discharge of water from Command's Photographic Laboratory (involves recovery of silver).
-- CSFs: All common support functions performed at Command.
-- Justification: (1) Provide photographic documentation of scientific and technical work conducted at Command (all common support functions performed at Command). (2) Provide photographic support to other Navy commands in San Diego (only authorized photographic facility in city of San Diego). (BRAC criterion I.)

- Water Discharge Permit 08-0017 (conn. no. 110) (City of San Diego Water Utilities Department)
-- Purpose: Discharge of treated/neutralized acid waste to City Sewer from the Product Development Lab.
-- CSFs: Pervasive Functions: 1. Electronic Devices, 8. Advanced Materials.
-- Justification: Allows for the fabrication of silicon semiconductor devices.

- Water Discharge Permit 80-0017 (conn. no. 120) (City of San Diego Water Utilities Department)
  -- Purpose: To support ongoing work of the Small Boat & Engine Repair Shop and Range Support Service Center.
  -- CSFs: All common support functions performed at Command.
  -- Justification: The NCCOSC RDTE DIV San Clemente Island Range test area is used to support the testing of Army, Marine Corp and Navy programs. The water discharge permit is required for the engine shop in the support of equipment repairs for range testing.

HAZARDOUS WASTE HEALTH PERMITS

- Hazardous Waste Permit H80109 (San Diego County Department of Health Services Hazardous Material Management Division)
  -- Purpose: Hazardous waste (silver) generated by operation of Command's Photographic Laboratory.
  -- CSFs: All common support functions performed at Command.
  -- Justification: (1) Provide photographic documentation of scientific and technical work conducted at Command (all common support functions performed at Command). (2) Provide photographic support to other Navy commands in San Diego (only authorized photographic facility in city of San Diego). (BRAC criterion I.)

- Hazardous Waste Permit H80075 (San Diego County Department of Health Services Hazardous Material Management Division)
  -- Purpose: Allows the use and resulting waste of Hazardous Materials at the Research and Technology Branch, Product Development Lab.
  -- CSFs: Pervasive Function 1. Electronic Devices, 8. Advanced Materials.
  -- Justification: The use of several Hazardous Materials are required in the fabrication of semiconductor devices.

- Hazardous Waste Permit H80079 (San Diego County Department of Health Services Hazardous Material Management Division)
  -- Purpose: Allows the use and resulting waste of Hazardous Materials used in the manufacture, repair, and refurbishment of electroacoustic transducers and windows.
  -- CSFs: Pervasive Function 1. Electronic Devices, 8. Advanced Materials.
  -- Justification: Hazardous polyurethanes and other chemicals are required for the processes involved in the manufacture, repair, and refurbishment of electroacoustic transducers and windows.

- Hazardous Waste Permit H80107 (San Diego County Department of Health Services Hazardous Material Management Division)
  -- Purpose: Allows the use and resulting waste of Hazardous Materials used in the

fabrication of printed circuits and printed antennas.

-- CSFs: Pervasive Function 1. Electronic Devices, 8. Advanced Materials.

-- Justification: The use of several Hazardous Materials are associated with printed circuit board preparation, photo-lithography, and board etching.

- Hazardous Waste Permit H80108 (San Diego County Department of Health Services Hazardous Material Management Division)

-- Purpose: Allows the use and resulting waste of Hazardous Materials at the Solid State Electronics Lab.

-- CSFs: Pervasive Function 1. Electronic Devices, 8. Advanced Materials.

-- Justification: The use of several Hazardous Materials are associated with semiconductor materials development and electronic and optoelectronic device development programs.

- Hazardous Waste Permit H80112 (San Diego County Department of Health Services Hazardous Material Management Division)

-- Purpose: Allows the use and resulting waste of Hazardous Materials at Environmental Sciences Lab.

-- CSFs: Pervasive Function: 7. Environmental Quality.

-- Justification: The Environmental Chemistry Laboratory generates wastes in support of the Marine Environmental Quality Program.

- Hazardous Waste Permit H80678 (San Diego County Department of Health Services Hazardous Material Management Division)

-- Purpose: To support ongoing work of the Small Boat & Engine Repair Shop and Range Support Service Center.

-- CSFs: All common support functions performed at Command.

-- Justification: The NCCOSC RDTE DIV San Clemente Island Range test area is used to support the testing of Army, Marine Corp and Navy programs. The hazardous waste permit is required for the engine shop in the support of equipment repairs for range testing.

- Application for permit for operation of hazardous waste treatment units (State of California Environmental Protection Agency Department of Toxic Substance Control).

-- Purpose: Hazardous waste (silver) generated by operation of Command's Photographic Laboratory.

-- CSFs: All common support functions performed at Command.

-- Justification: (1) Provide photographic documentation of scientific and technical work conducted at Command (all common support functions performed at Command). (2) Provide photographic support to other Navy commands in San Diego (only authorized photographic facility in city of San Diego). (BRAC criterion I.)

- Application for permit for operation of hazardous waste treatment units (State of California Environmental Protection Agency Department of Toxic Substance Control).
  -- Purpose: CALIFORNIA EPA PERMIT application is for the acid neutralization tank in the Research and Technology Branch, Product Development Lab, BLDG 560.
  -- CSFs: Pervasive Function: 1. Electronic Devices, 8. Advanced Materials.
  -- Justification: Supports the fabrication of semiconductor devices.

- Application for permit for operation of hazardous waste treatment units (State of California Environmental Protection Agency Department of Toxic Substance Control).
  -- Purpose: CALIFORNIA EPA PERMIT application is for the oil water separator in the Small Boat & Engine Repair Shop.
  -- CSFs: All common support functions performed at Command.
  -- Justification: The NCCOSC RDTE DIV San Clemente Island Range test area is used to support the testing of Army, Marine Corp and Navy programs. The oil water separator is required for the engine shop in the support of equipment repairs for range testing.

RADIOACTIVE MATERIALS

- Navy Radioactive Materials Permit No. 04-66001-E1NP; a Broad-Scope Type A permit (1 of 3 world wide) issued to NCCOSC RDTE DIV by the Navy Radiation Safety Committee (NRSC).
  -- Purpose: Serves as the authority of NCCOSC RDTE DIV's Ionizing Radiation Control Committee to issue use permits for an x-ray diffractometer facility and possession, storage, and use of two radioactive sources.
  -- CSFs: Pervasive Functions: 1. Electronic Devices, 8. Advanced Materials.
  -- Justification: These use permits support semiconductor materials development programs and radiation hardness testing of IR detectors and focal-plane-array programs.

- EPA Radioactive Materials Disposal Permit No. CA-99-0010-6271 and California Radioactive Materials Disposal Permit No. CAR-99-001-6842.
  -- Purpose: Used in radioisotope labeling and disposal of material for environmental fate and effects work.
  -- CSFs: Pervasive Function: 7. Environmental Quality.
  -- Justification: Supports work in Radiation Physics for using sealed radioactive sources, their eventual disposal, and for developing and calibrating radiation detection equipment and sensors.

- DOE Loan Agreement 78SR1062.
  -- Purpose: Loan agreement with DOE for "Special Nuclear Materials."
  -- CSFs: Pervasive Function 7 Environmental Quality.

-- Justification: This covers the special radioisotope and elements (as defined by Congress) for use in radiation physics research.

AIR PERMITS

- 005634 and 005636, BLDG 105 Degreaser, Cold Solvent, Small Boat & Engine Repair Shop.
  -- Purpose: To support ongoing work of the Range Support Service Center.
  -- CSFs: All common support functions performed at Command.
  -- Justification: The NCCOSC RDTE DIV San Clemente Island Range test area is used to support testing of Army, Marine Corp and Navy programs. The degreaser is required for engine repairs in support of the Range.

- 005638, BLDG 111 Degreaser, Cold Solvent, Environmental Sciences Lab.
  -- Purpose: To support ongoing work in Environmental Sciences research.
  -- CSFs: Pervasive Function: 7. Environmental Quality.
  -- Justification: Required for chemistry laboratories' work in Building 111 to support the Marine Environmental Quality Program.

- 890034, BLDG A-35, Chemical Vapor Deposition System, Solid State Electronics Laboratory.
  -- Purpose: To allow operation of two chemical vapor deposition systems. Issued to NCCOSC RDTE DIV by the Air Pollution Control District.
  -- CSFs: Pervasive Functions: 1. Electronic Devices, 8. Advanced Materials.
  -- Justification: The permit is required for the operation of two chemical vapor deposition systems within the Solid State Electronics Laboratory that require the use of toxic gases. These systems are an integral part of a semiconductor materials development program and electronic device development programs.

OTHER

- There are no unusual Licenses & Permits held at the Warminster Detachment. The normal use of facilities is adequate to perform the Detachment's mission. Permits existing are:
  -- National Pollution Discharge Elimination System (NPDES) Permit - Permit allows discharge of treated waste water into a local creek. An agreement with the local sewer authority will replace this requirement.
  -- Air Discharge Permit - Not required.
  -- Tank Registration Program -Underground tanks are being removed.
  -- National Priorities List - A pump and treat program for NPL sites (6 in number) is underway and is administered by NAVFAC.

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)

There are three basic land use constraints to development of areas of land under NCCOSC RDTE DIV jurisdiction. These are:

(1) The new Ecological Reserve Area that is about to be formalized. It is the result of a Letter of Intent signed by the 5 Commanding Officers on Point Loma and the 5 non-Navy landowners. The Reserve will occupy about 640 acres on Point Loma, 290 of which occur on NCCOSC RDTE DIV property (NCCOSC RDTE DIV has 508 acres under its jurisdiction on Point Loma).

(2) Most of the undeveloped land occurs in areas where the slope exceeds 20 percent, which is considered unbuildable, and would be cost prohibitive to build on.

(3) NCCOSC RDTE DIV's work in Command, Control and Communications is concentrated in the seaside area of Point Loma and this work requires the area to be an Electromagnetic Free. In this area, the use of transmitting signals is restricted, and in many areas buildings are not permitted due to signal paths or possible reflections (multipath interference). This area is an asset to those programs which require a low electromagnetic signal environment; the land mass blocks all signals emitted from North Island Naval Air Station, San Diego's Airport, television stations and radio stations. This provides a clean electromagnetic environment to communicate with ships at sea and aircraft.

In areas not effected by the above restrictions, we have 78 buildable acres for additional laboratory/administrative support construction. Using a model sampling of our existing developed areas it was calculated that within the 78 acres of buildable area approximately 1.3 Million square feet of additional building could be developed. This includes provisions for parking, utilities, and other amenities found within our model.

At the Warminster site, there are no environmental or land use constraints that would impact, limit or restrict performance for CSFs. No federally or state protected wetlands, floodplains or endangered species are affected by this site. Cultural or historic resources would not be impacted. Adequate Electromagnetic Spectrum is available for necessary communication's tests.

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)

Sea Water Flow Through Facility

The flow-through seawater system associated with Building 111 is important to the Environmental Quality RDT&E Program. The system consists of pumps, filters and a distribution system that provides fresh seawater for laboratories and bioassay facilities in the Ocean Sciences Laboratory. Seawater is needed to test toxicity of compounds to marine organisms, develop marine instrumentation and sensors and use in realistic exposure studies. The availability of seawater is critical to marine environmental quality assessment projects and the Marine Environmental Support Office.

Ship Antenna Model Range

This facility consists of a flat plane for rotating modeled ships, tracks and towers for equipment movement, control systems for the test equipment, data collection systems, data reduction computers, plotters, and analysis software and components. The facility includes a modeling shop in which a scaled model of every ship in the fleet has been built for evaluation. It is a major installation developed over the past 40 years. This facility provides a basis for analysis and measurement of HF/VHF/UHF shipboard antennas and their effect on other systems when installed on ships. Evaluates electromagnetic propagation effects, electromagnetic engineering systems and structural resonant responses. The model range is unique to the world with its turntable, test tracks, and supporting equipment.

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)

Common Support Functions	Name	Type of Organization	Distance	Workyears Performed by Your Activity	Workyears Funded by Your Activity
C4I Afloat, Satellite Communications Systems	COMNAV-AIRPAC/ COMNAV-SURFPAC, Operational Fleet	Carrier Battle Groups, Fleet	3-5 miles	158	265
Electronic Devices, Environmental Quality and Advanced Materials	UC San Diego, Scripps Institution of Oceano-graphy, San Diego State University	Universities	1-15 miles	35	15
C4I Airborne	Naval Air Station North Island	Naval Air Station	5 miles	24	13
C4I Ground Mobile and Fixed	Camp Pendleton	Marine Corps Station	20 miles	20	6
All	San Diego	Commercial and Industrial Base	1-25 miles	1000 est. overall	2000 est. overall

THE IMPORTANCE OF THESE ORGANIZATIONS

Fleet, North Island, Camp Pendleton...

Carrier battle groups deploy out of San Diego. These battle groups work-up their operations and C4I capabilities in the Southern California operating areas. This gives us unparalleled capabilities to develop, integrate, test and support C4I capabilities (including joint capabilities, e.g. JTIDS, JMCIS, CTAPS,...) as an integrated whole across multiple platforms (carriers, cruisers, destroyers, submarines, E-2C, F-14,...) and services (AWACS, F-15, PLRS,...). Future combat operations will be combined arms with a high degree of integrated joint C4I interoperability. Our location in San Diego provides a

juxtaposition across a variety of warfighting capabilities unmatched except perhaps by Hawaii. For example: Naval Station San Diego (carrier battle groups), NAS North Island (E-2C, S-3A, and HSL squadrons), NAS/MCAS Miramar (F-14, F/A-18), Camp Pendleton (USMC amphibious operations, ground vehicles), NAB Coronado (special warfare operations, amphibious operations, mobile EOD units), NSG Imperial Beach (intelligence).

Because of our location, our interaction with operating units and the fleet is frequent, at no cost, at many levels, and often serendipitous. This enables us to remain close to our primary customer -- the warfighter. Many of our employees spend significant time aboard vessels and at Camp Pendleton, and are well known to operating units and their staffs. I, as Commanding Officer, can look out my office window and see two carrier battle groups and an early warning aircraft squadron. No other laboratory/warfare center commander can make this claim. We believe our location, so close to the wide variety of customers, to be a tremendous asset for serving the fleet.

Universities

With the University of California San Diego, San Diego State University, and University of San Diego, this location is <u>one of three leading regions in the country</u> for providing higher education in technical and scientific fields. In addition, the Scripps Institution of Oceanography (with whom we share joint programs) is one of the world's leading oceanographic institutions.

- In the area of Environmental Quality, we have existing and building collaborative work and associations with Scripps Institution of Oceanography, UC San Diego, and San Diego State University. This includes collaborative research projects being developed with ONR in hydrodynamic modeling and validation, including use of the UC Supercomputer Center, and marine chemistry, bioindicator and remediation work. A Memorandum of Agreement has been established with NCCOSC RDTE DIV and growing interests in joint environment/sensor work and TRP Dual Use Programs. The proximity of these universities is particularly important because they can provide technical expertise and capabilities (instrumentation, computing power, etc.), regional liaison, technology transfer and manpower in a time of draw down when hiring is impracticable or impossible.

- We're involved in cooperative research with the Department of Electrical and Computer Engineering, at the University of California, San Diego (UCSD). This research is in the area of Optoelectronic Systems Packaging. We provide assembly services, design, and engineering expertise for packaging complex optoelectronics systems under development at UCSD. These services are essential to UCSD's Advanced Research Projects Agency sponsored effort in optoelectronic computing. UCSD has three full time graduate students committed to this project.

- Our microelectronics facility has had long-standing, mutually beneficial relationships with both University of California, San Diego (UCSD) and San Diego State University (SDSU). We are in close contact with several professors working in the area of electronic devices at UCSD.

- We've had both formal and informal cooperative research efforts with the University of California, San Diego (UCSD) for many years. These efforts currently involve optoelectronic and electronic materials research and device development. The work being performed in our lab and at UCSD is frequently for the same sponsor and invariably both efforts are being funded by Federal Government agencies. These cooperative efforts offer timely access to equipment and expertise that could not be duplicated at NCCOSC RDTE DIV with current funding levels.

- We have worked and continue to work collaboratively on projects with UCSD (Scripps Institution of Oceanography and Applied Mechanics and Engineering Science). We author joint proposals. We have seminars and UCSD and SDSU are members of the Center for the Control of Fluids. At SDSU we have collaborations with the Aero and Mechanical Eng Depts.

- The San Diego State Foundation provides quality students from all local universities to support RDT&E Projects. These students must be within short range commuting distance to provide support.

- The San Diego Supercomputer Center is one of four National Science Foundation sponsored national supercomputer centers, and is located on the University of California San Diego campus. Our access to the San Diego Supercomputer Center and our collaborative R&D work is essential to our high performance computing research in the areas of visualization and simulation.

Commercial and Industrial Base

San Diego provides a large commercial and industrial base from which we draw upon its highly technical and skilled work force. This surrounding industry contains a wealth of readily available talent and support for all phases of our work, and provides us with a rapid workload growth capability. Additionally, San Diego is quickly becoming a leading national telecommunications industry center with a special emphasis on satellite and high-speed terrestrial communications. The San Diego Mayor, Susan Golding, has committed to making San Diego the "Communications City of the Future -- the Telecommunications Capital." The Mayor has established a major on-going effort to achieve this goal through industry incentives and through a major cooperative effort between government, industry, and academia. San Diego easily provides the much needed technological infrastructure

required to support a large military research lab.

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	1557	85	15	0
Management (Supv)	165	8	0	0
Other	199	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	181	9	141
Associates	105	3	32
Bachelor	756	53	24
Masters	434	88	2
Doctorate (include Med/Vet/etc.)	138	20	0

The above table includes <u>military and civilian</u> personnel involved in science, technology, engineering development and in-service engineering.

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	**26**	**416**	**299**	**206**	**667**
Managemen t (Supv)	**0**	**8**	**16**	**25**	**124**
Total	**26**	**424**	**315**	**231**	**791**

NCCOSC RDTE DIV NOTE: "Other" category not included (e.g. as in 3.2.1 and 3.2.2) as per original 3.2.3 table.

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)
Air Vehicles	**0**	**1**	**(See Appendix D)**
C4I Systems	**51**	**29**	
Electronic Devices	**49**	**46**	
Environmental Sciences	**1**	**1**	
Human Systems	**2**	**1**	
Environmental Quality	**20**	**1**	
Advanced Materials	**9**	**2**	
Total	**132**	**81**	

3.2.4.2 How many papers were published in peer reviewed journals? (BRAC Criteria I)

CSF	Number Published	Paper Titles (List)
Air Vehicles	7	(See Appendix E)
Air Vehicles Fixed Avionics	14	
Air Vehicles Rotary Avionics	1	
Weapons Cruise Missiles	2	
Space Systems Satellites	2	
C4I Systems	169	
C4I Systems Afloat	158	
C4I Systems Fixed Ground-Based	48	
C4I Systems Ground Mobile	7	
Electronic Devices	127	
Environmental Sciences	89	
Human Systems	4	
Manpower and Personnel	1	
Environmental Quality	47	
Advanced Materials	63	
TOTAL	739	

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)

CSF	Lifecycle Phase	FY93 Actual			
		Civilian	Military	FFRDC	SETA
Air Vehicles General	**Science & Technology**	**4**			
Air Vehicles Fixed Avionics	**Engineering Development**	**68.3**			
Weapons Cruise Missiles	**Engineering Development**	**8**			
Space Systems Satellites	**Science & Technology**	**24**			
	Engineering Development	**151**	**6**		
	In-Service Engineering	**58**	**3**		
C4I Systems Afloat	**Science & Technology**	**20.6**		**15**	
	Engineering Development	**530.6**	**4.4**		
C4I Systems Airborne	**Science & Technology**	**65.1**			
	Engineering Development	**88**	**4.4**		
C4I Systems Ground Mobile	**Science & Technology**	**17**	**1**		
C4I Systems Ground Fixed	**Science & Technology**	**54.3**	**1**		
	Engineering Development	**352.1**	**2.2**		
Electronic Devices	**Science & Technology**	**45**			
Environmental Sciences	**Science & Technology**	**9**			
Environmental Quality	**Science & Technology**	**14**			
Advanced Materials	**Science & Technology**	**13**			

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).

Air Vehicles Fixed Avionics Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC	Tacamo GPS	1.0 36.8	$155.0K $18.7M	1. TACAMO is an airborne communications platform that provides a relay between the National Command Authority and Fleet strategic submarines. 2. GPS is a tri-service, satellite-based UHF navigation system providing accurate 3-dimensional position, velocity and time to user platforms.
ACAT ID	V-22	2.0	$342.0K	Provide GPS navigation engineering and communication support.
ACAT II	ICNIA	.4	$60.0K	ICNIA is a tri-service integrated avionics system that supplies all airborne communications and navigation functions.
ACAT III/IV	7	3.5	$479.0K	COMPASS/AHARS Radiant Outlaw JSOW P3/S3 Antenna Study UHF/Satellite Comm Transmitter Components
Other	3	16	$2.2M	GPSIU Comm. Network TRSS

Weapons Cruise Missile Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC				
ACAT ID				
ACAT II	CRUISE MISSILE	8.1	$1.6M	Provide engineering support for the GPS Software Support Activity and IV&V of the Cruise Missile GPS receiver software.
ACAT III/IV				
Other				

Space Systems Satellites Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC	Navy EHF Satellite	21	$3.9M	Development of a computer controlled method to provide automatic routing of EHF Satcom links.
ACAT ID				
ACAT II				
ACAT III/IV	7	93	$14.2M	DAMA UHF SATCOMM Mini-DAMA WSC-3 Follow-on DDP SHF SATCOM TRE
Other				

Afloat C4I Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC	GPS	19.9	$2.8M	A tri-service, satellite-based UHF navigation system providing accurate 3-D position, velocity and time to user platforms. GPS is currently in the production phase of three phase program
ACAT ID				
ACAT II	Navy Tactical Command Systems Afloat	70	$16.2M	NTCS-A provides an affordable C2I system to support flag and unit level information requirements. NTCS-A is the first program to receive production approval using nondevelopmental item (NDI) and commercial off-the-shelf (COTS) software and open system standards.
	Advanced Combat Direction System Block 0, CDS Model 4.1	90	$8.6M	Advanced Combat Direction System Block 0 program develops and maintains CV, CVN, LCC, LHA and LHD combat direction system computer programs, other support programs and related documentation.
	Command and Control Processor (C2P) System/ Subsystem	37	$5.1M	The Command and Control Processor (C2P) provides centralized management and control of tactical digital information links in a multi-threat environment.
	Advanced Combat Direction System Block 1	105	$14.7M	The Advanced Combat Direction System Block 1 program develops a replacement and upgrade for the Naval Tactical Data System, providing significant enhancements in the areas of sensor management, tactical data exchange, warfare area coordination, and system reliability.

ACAT III/IV	5	26.6	$3.6M	Ring Laser Gyro Navigator Doppler Sonar Velocity Log IRR MMPS Ring Laser Gyro Nav.
Other	73	497.7	$111.8M	(see list below)

Afloat C4I Other List:

1. Ship IR Volume Search and Tracking
2. SHF Antennas
3. ART
4. DARPA Maritime Warfare
5. Electrical ARC Acoustic Source Physics
6. Coastal Remote Sensing
7. RF and Microwave Tech. Construction
8. Electro-Optics Systems
9. Cryptologic Test and Evaluation
10. Photonics Mast
11. Cluster CERES
12. Cluster ARGUS
13. E-O Surveillance Helmet
14. Air Defense Initiative--Anti-Submarine Warfare (ADI-ASW)
15. Deployable Undersea Surveillance Project
16. Surveillance with Deployable Distributed Systems
17. Surveillance with Deployable Distributed Systems
18. Signal Processing Support for SOSUS Shore Processing
19. Surveillance Test and Integration Center (STIC)
20. Hardware Engineering Support for Design, Production
21. FDS Cable Development
22. Low Frequency Acoustics
23. Surveillance with Deployable Distributed Systems
24. Advanced Deployable Array (ADDA)
25. Port Area Surveillance (PAS)
26. Project Skylight
27. High Gain Initiative
28. Gusty Elk
29. RDC Support
30. Surface Surveillance
31. Cluster YANKEE!!
32. HULTEC-Tech Support
33. NRD-93-004 RDEP HFDF
34. JADE

35. **Magic Lantern Sensor System (MLSS)/ML90 Program**
36. **Multispectral Imaging (MS)**
37. **Radiant Outlaw**
38. **Resonant Periscope Detection**
39. **IRFPA Program**
40. **Project Nestlab**
41. **ASROC**
42. **MK 116 Support**
43. **Source Projector Support for SACLANTCTR**
44. **Upsounder EDM Development**
45. **Caribroc Communications Critical Design Review (CDR)**
46. **Electrical ARC Acoustic Source Physics**
47. **CDS Development and Evaluation Site**
48. **ICER**
49. **Battle Group Assessment CINCLANTFLT**
50. **Control System Integration Planning/ Implementation**
51. **Shipboard Contact Mgmt System**
52. **Radar Display and Distribution System**
53. **Technical Direction Agent-ASWCS Mod 7**
54. **Battle Force EMI Evaluation System**
55. **Combat Direction Systems Development Support**
56. **Human Engineering/ILS for new ship acquisition**
57. **AEGIS CIG User Interface Human Factors Study**
58. **Human Factors Engineering for Ships**
59. **Human Factors Support for Advanced TOMAHAWK**
60. **SMATCALS**
61. **Shipboard ID System Development**
62. **Combat ID/Cooperative Aircraft ID Support**
63. **WSA&E**
64. **ASW Multi-Configuration Environmental Sim.**
65. **Emulation System Development**
66. **Ocean Survey Program**
67. **ESGN**
68. **SWS**
69. **Fiber Optic Gyrocompass**
70. **Surface Ship Nav. System**
71. **FOAL**
72. **SSBN NaV. system**
73. **SSBN RLGN**

Airborne C4I Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC	JTIDS Class 2 Terminal	114.2	$19.3M	Joint Tactical Information Distribution System (JTIDS) provides an integrated communications - navigation - identification system featuring multichannel, multinet, high data rate communications, and relative navigation capabilities for tactical operations.
ACAT ID	JTIDS MIDS	15.3 7.0	$6.8M $2.2M	1. JTIDS is an advanced radio system which provides information distribution, position location, and identification capabilities in an integrated form for tactical military operations. Provides improved capabilities for tactical forces of the U. S. military and NATO and is intended to become a vital part of the currently existing Joint Tactical Air Operations (JTAO) system. 2. MIDS is an advanced radio system which provides information distribution, position location and identification capabilities in an integrated form for application to tactical military operations. The multi-national MIDS LVT program will provide for an important component of an integrated communications system which is interoperable among allies.
ACAT II	E-2C Weapon System	29.1	$3.5M	Develop and maintain E-2C aircraft weapons systems tactical and diagnostic computer programs.
ACAT III/IV	4	2.6	$378.7K	Uplink Telemetry Eval Dual Frequency Synthesizer Radio Relay Airship Demo ATARS Data Link
Other				

Fixed Ground Based C4I Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC				
ACAT ID	SDS FDS MATT	10.6 5.1 12	$2.3M $1.5M $5.7M	1. SDS (Surveillance Direction System) provides command, control, communications, and intelligence capabilities for the Integrated Undersea Surveillance System. 2. FDS (Fixed Distributed System) updates both the underwater sensors and shore based signal and information processing systems. 3. MATT (Multi-Mission Advanced Tactical Terminal) is a highly miniaturized C4I terminal being procured to meet USSOCOM, Navy and Air Force near-term tactical intelligence broadcast reception and data processing requirements for space and weight constrained platforms.
ACAT II	OSIS Baseline Upgrade	4.4	$1.6M	Provides the intelligence processing systems, both hardware and software, for the Unified and Specified Intelligence Centers. This system receives, processes, and displays intelligence information for a wide range of Navy and Joint warfighting capabilities.
ACAT III/IV	10	146.8	$24.2M	1. Operations Support System 2. VERDIN (O&MN) 3. EVS 4. ISABPS 5. IRR 6. SLVR 7. TMPS 8. MMPS 9. NECC 10. SMB
Other	75+	631.2	$120.9M	(see list below)

C4I Fixed Ground Based Other List:

1. **VERDIN (R&D)**
2. **CPIP**
3. **FVLF Engineering**
4. **Baseband Switch**
5. **Circuit Mayflower**
6. **Clarinet Merlin**
7. **Radar Target Imaging**
8. **UWB Field Test**
9. **Parallel Image Processing**
10. **Electro-Mag Theory**
11. **Advanced Test Equipment/Meterology**
12. **Gusty Dairy**
13. **Program Management Support**
14. **Gusty Dairy**
15. **Gusty Dairy Task 9**
16. **Tactical Data Acquisition & Correlation ATD**
17. **RASSP Coordination**
18. **Cryptologic Test and Evaluation**
19. **Surface Ship Measurement**
20. **Full Spectrum Processing**
21. **Dam Neck System Validation**
22. **Special Projects Support**
23. **THAW**
24. **IUSS Communications Engineering**
25. **Oceanographic Systems Support Detachment (OSSD)**
26. **Surveillance Test and Integration Center (STIC)**
27. **ICS Replacement**
28. **Site 7800 System Engineering and Testing**
29. **Statistical Models of Ocean Noise**
30. **Spotlight**
31. **Surveillance Long-Range Planning Study (SLRPS)**
32. **Ferroelectric Liquid Crystal (FLC) Optical Processing ATD**
33. **IUSS System Software Support Activity (SSSA)**
34. **HULTEC-Tech Support**
35. **Relocatable Over The Horizon Radar (ROTHR)**
36. **Sensor Processing Algorithms and Architectures**
37. **HF Broadboard Antenna**
38. **Advanced Unattended Ground Sensor**
39. **Project Kingpin**
40. **EHF Support/Receiver Characterization**

41. **Coherent Radar Data Processing**
42. **MMW IFF Interrogator**
43. **System Integration Environment TCAC**
44. **Advanced Integrated Display Station**
45. **Tactical Offboard Data Integration**
46. **Fusion Algorithm Development**
47. **Display Systems Analysis and Support**
48. **Command, Control & Computer Engineering Support**
49. **Data Base Fusion/OSGP**
50. **MTWS System**
51. **SEW/Copernicus**
52. **Link 11 Developments**
53. **Counternarcotics Intelligence Support**
54. **FAA Command and Control Support**
55. **Battleforce Tactical Training**
56. **Research, Evaluation & Systems Analysis**
57. **Space System Technical Support**
58. **AFWTF/PMRF NTDS Upgrade**
59. **Tech Transition at PACOM**
60. **COSIP**
61. **Next Generation Computer Resources Support**
62. **CINCPACAF Command Center Upgrade**
63. **Interoperability**
64. **Drug Interdiction System Support**
65. **Ashore Command Centers Support**
66. **CINCPACFLT Communications Upgrade**
67. **DODIIS Connectivity**
68. **JINTACCS Support**
69. **Speech Normalizaiton and Processing**
70. **MILSTAR Operational Requirements Aid MORA**
71. **ADA Message Processing Support to DCA**
72. **ADA Joint Program Office/Support Environment**
73. **ASIST**
74. **Collection Requirements Management Application**
75. **SMARTS/SUNSCREEN**

Electronic Devices Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC				
ACAT ID				
ACAT II				
ACAT III/IV				
Other	11	48.75	$18.1M	1. Microelectronics - CCD Array 2. Microelectronics Support 3. Novel All Solid-State Laser Systems for Undersea Applications 4. Millimeter Wave Circuit Technology 5. Surveillance Projector Technology 6. Source Technology Support 7. MM-Wave Technical Support 8. AN/BQS-14A and 15 Sonar Transducer Support 9. NAV & A/C C3 Block 10. Adv. ASW Rcvr. ATD 11. Low Prob. of Intercept Sys.

Human Systems Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC				
ACAT ID				
ACAT II				
ACAT III/IV				
Other	1	1.68	$336k	REFLUPS - Resuscitation Fluid Production Systems

Environmental Quality Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC				
ACAT ID				
ACAT II				
ACAT III/IV				
Other	2	4.97	$2.5M	1. Marine Environmental Support Office 2. SCAPS - Site Characterization and Analysis Penetrometer

Environmental Sciences Engineering Development	Name or Number	Workyears (FY93 Actual)	FY93 Funds Received (Obligation Authority)	Narrative
ACAT IC				
ACAT ID				
ACAT II				
ACAT III/IV				
Other	1	15.4	$7.3M	Advanced Deployable System Development (ADS)

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	
Satellite Systems	Satcom Software Support Activity	7.1M	61	None

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
Not applicable				

NCCOSC RDTE NOTES:

- NCCOSC RDTE DIV is a DBOF activity. We assume that "direct mission funding" refers to block funding used by Army and Air Force activities. Since this activity is DBOF funded, our funding is reimbursable and direct cite; not block funded.

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
Air Vehicles Fixed Propulsion	925K reimb. 100K RCP	1.3M reimb. 200K RCP	1.1M reimb. 200K RCP	1.1M reimb. 1.0M RCP
Air Vehicles Avionics	14.0M reimb. 4.1M RCP	12.8M reimb. 5.4M RCP	12.4M reimb. 4.3M RCP	12.4M reimb. 2.8M RCP
Weapons Cruise Missile	1.4M reimb.	1.1M reimb.	1.2M reimb.	1.1M reimb.
Space Systems Satellites	13.0M reimb. 3.0M RCP	14.1M reimb. 2.5M RCP	17.0M reimb. 4.0M RCP	15.0M reimb. 4.0M RCP
C4I Systems	220.9M	142.5M	148.5M	153.3M
C4I Systems Afloat C4I	56.2M reimb. 26.1M RCP	47.5M reimb. 25.7M RCP	47.3M reimb. 25.4M RCP	47.2M reimb. 23.6M RCP
C4I Systems Airborne C4I	7.7M reimb. 900K RCP	9.1M reimb. 1.3M RCP	9.7M reimb. 1.4M RCP	7.9M reimb. 1.4M RCP
C4I Systems Ground Moblie C4I	3.2M reimb. 2.4M RCP	4.0M reimb. 2.3M RCP	4.9M reimb. 2.0M RCP	4.3M reimb. 3.2M RCP
C4I Systems Fixed Ground Base	45.4M reimb. 29.8M RCP	40.8M reimb. 47.2M RCP	41.6M reimb. 35.8M RCP	40.4M reimb. 35.0M RCP
Electronic Devices	15.8M reimb. 12.1M RCP	18.6M reimb. 11.2M RCP	15.3M reimb. 5.6M RCP	14.7M reimb. 5.3M RCP
Environmental Sciences	10.9M reimb. 2.2M RCP	11.0M reimb. 1.5M RCP	9.3M reimb. 1.0M RCP	9.4M reimb. 1.4M RCP
Human Systems	156K reimb.	260K reimb.	300K reimb.	450K reimb.
Environmental Quality	10.3M reimb. 685K RCP	8.7M reimb. 1.1M RCP	9.1M reimb. 2.2M RCP	8.7M reimb. 2.1M RCP
Advanced Materials	1.7M reimb. 13.3M RCP	1.8M reimb. 16.0M RCP	1.8M reimb. 10.0M RCP	1.8M reimb. 11.0M RCP

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)	Photo No.
		DOD	Federal Gov't	U. S.		
Air Vehicles Fixed Avionics	**RF/Microelectronics Laboratory**				**$3,000**	**1**
	CH-46 GPS System Integration Laboratory (SIL)	**X**			**$800**	**None**
	HC/KC-130 System Integration Lab (SIL)	**X**			**$1,750**	**None**
	Carco Flight Motion Simulator (CFMS)				**$600**	**2**
Satellite Systems	**SHF Satellite Communications Test Facility**				**$2,000**	**3**
	Navy UHF Satellite Communications Test Facility				**$9,000**	**4**
C4I Airborne	**JTIDS Network Design Lab**			**X**	**$1,320**	**None**
	E-2C Airborne Tactical Data Systems (ATDS) Integration Laboratory	**X**			**$15,600**	**5**
C4I Afloat	**Ship Antenna Model Range and Simulation Facility**			**X**	**$20,000**	**6**
	VLF/LF Test Facility			**X**	**$97,000**	**7**
	EHF Satellite Communications Terminal Test Facility				**$3,000**	**8**
	Radar Test Range			**X**	**$17,000**	**None**

	Surveillance Systems Offices and Labs				$11,000	None
	Deployable Surveillance Integration Facility	X			$2,750	9
	Bayside Acoustic Systems Computational Facility	X			$4,000	10
	Combat Direction System (CDS) Development and Evaluation Site (CDES)	X			$75,700	11
	Navy Tactical Command System Afloat (NTCS-A) Testbed And Integration Facility	X			$2,000	12
	Simulated Ships Motion Test Facility			X	$4,500	13
	Oceanographic Systems Program (OSP) Laboratory			X	$12,500	14
	Survivable Adaptable Fiber-Optic Embedded Network Development Site				$3,000	15
C4I Fixed Land Based	Information Transfer Management Structure				$800	16
	Surveillance Test and Integration Center		X		$32,000	17
	Tactical Engineering Analysis Lab	X			$308	18
	Tactical Systems Lab	X			$1,927	19
	High Performance Computing And Theater Level Planning Laboratory	X			$1,800	20
	Navy Command and Control System Ashore integration test facility	X			$3,300	21
	Navy Intelligence Development, Integration And Test Facility	X			$1,800	22
	Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) Laboratory	X			$900	23

	Surveillance Systems Offices and Labs				$15,000	None
	Distributed Command/Control (DC2) Laboratory				$1,000	24
	Marine Air Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Laboratory	X			$2,200	25
	Distributed Simulation Internet (DSI) Advanced Simulation Laboratory (DASL)/Secure DSI Integraiton Simulation Laboratory (SISL)				$2,800	26
	Command Center of the Future	X			$300	27
	Processing and Data Exploitation Ceneter	X			$1,858	28
	Space and Electronic Warfare Simulator (SEWSIM)			X	$4,500	29
	Special Signals Equipment Space Simulator (SWIFT)			X	$29,000	30
	Microwave and Millimeter-wave Antenna Range Complex		X		$4,300	31
	Radar Signal Processing Laboratory			X	$2,050	32
	Secure Facilities, Vaults And Underground Bunkers	X			$20,000	33
	Indoor Robotics Development/Test Facility	X			$650	34
	Communications Support System Simulation Facility				$500	35
Environmental Quality	Ocean Sciences Laboratory		X		$12,500	36
	Marine Environmental Survey Capability		X		$1,500	37

	Site Characterization and Analysis Penetrometer System (SCAPS)				$1,000	38
Advanced Materials	Materials Research Laboratory				$900	39
Environmental Sciences	Environmenatl Sciences Facility			X	$1,400	40
Electronic Devices	Microelectronic Computer Aided Design (CAD) Facility				$3,230	41
	Radiometric Measurements Facility				$1,000	42
	Optoelectronic Device Characterization Facility				$750	43
	Infrared Focal Plane Array Test Facility			X	$2,400	44
	Long Wavelength Infrared (LWIR) Filters and Materials Evaluation Laboratory			X	$800	45
	Electronic Packaging Facility				$2,210	46
	Micro-electronics Laboratory				$43,800	47
	Surveillance Systems Ofices and Labs				$864	None
	Electronic Materials Science Facility				$2,380	48
C4I Airborne 20%, C4I Fixed Land Based 40%, C4I Afloat 40%	Systems Integration Facility (SIF)	X			$38,700	49
	Multi-Link Laboratory	X			$4,000	50
C4I Fixed Land Based 50%, C4I Afloat 50%	High Performance Computing Processing Facility	X			$12,483	51
	Research Evaluation and Systems Analysis (RESA) Facility	X			$4,000	52
	Display Systems Development Laboratory	X			$4,000	53

	Over the Horizon Targeting (OTH-T) Reconfigurable Land Based Test Site (RLBTS)	X			$5,000	54
Electronic Devices 50%, C4I Afloat 50%	Inertial Navigation Facility (INFAC)			X	$29,000	55
Air Vehicles Fixed Avionics 59%, C4I Afloat 29%, Weapons Cruise Missile 12%	GPS Laboratory			X	$4,750	56

FACILITY DESCRIPTIONS AND UNIQUENESS STATEMENTS

RF/Microelectronics Laboratory

The laboratory functions are design, development, prototyping and test of state-of-the-art thin film, thick film, and surface mount microelectronic circuit assemblies with emphasis on radio frequency and microwave circuits. The laboratory supports ongoing communication and navigation projects within the Detachment and is funded primarily by direct project funds. The laboratory also fabricates microelectronic test assemblies for evaluation of new military and commercial components and devices which are candidates for improving performance of radio frequency subsystems.

The combination of facility and expertise is unique within the Navy, in that the specialty is radio- frequency, circuit miniaturization and assembly. Microelectronics is as important and pervasive for radio frequency and microwave circuitry as it had been for digital and analog circuitry. The RF/Microelectronics laboratory designs and fabricates miniaturized prototypes using military and commercial integrated circuits such as Monolithic Microwave Integrated Circuits (MMIC), as well as military and commercial miniaturized discrete components such as inductors, capacitors, field effect transistors, etc.

The CH-46 GPS System Integration Laboratory (SIL)

Used primarily as a tool to test and develop the overall system design which will culminate with the integration of GPS user equipment and various other avionics into the CH-46 helicopter. This lab provides an excellent vehicle to debug the software that is used to control each of the Weapons Replaceable Assemblies (WRS) in the avionics system, allowing for the delivery of a fully functioning software package to the fleet.

The SIL consists of the following equipment: one GPS FRPA (Fixed Reception Pattern Antenna); one MAGR (Miniature Airborne GPS Receiver); one ARC-182 communications radio; one DDS (Digital Data Set); two ICUs (Interface Control Units); one Doppler Radar; two CDNUs (Control Display Navigation Units); one TAS (True Airspeed Computer); two HHSIs (Horizontal Hover Situation Indicators); one ARN-118 TACAN radio; one APX-72 IFF (Identify Friend or Foe) transponder; one APX IFF Test Set; one IFF KIT-1A (crypto); one AHARS (Attitude and Heading Reference System) Displacement Gyro; one AHARS electr. amplifier; one ARC-94 HF radio; one ARC-94 HF Dummy Load; one Radar Altimeter; one I-1400 & I-1402 IFF Transponder Test/Display Unit; two IBM compatible 486 computer systems; and two Andor 1553 cards.

The facilities and equipment are not shared with any other functions. This facility is

unique to the DOD in that it is the only CH-46 replication laboratory in existence and allows for a complete range of testing, both the hardware and software, which will ultimately be integrated into the fleet.

The HC/KC-130 GPS/CDNU System Integration Lab (SIL)

Used primarily as a tool to test and develop the overall system design which will culminate with the integration of GPS user equipment (UE), control display navigation units (CDNUs) and various other avionics into the HC-130 and KC-130 aircraft. This laboratory provides an excellent vehicle to debug the CDNU HC-130 and KC-130 specific software that is used to control each of the Weapons Replaceable Assemblies (WRS) in the avionics system, allowing for the delivery of a fully functioning software package to the fleet.

The SIL consists of the following equipment: C-130 COMMON EQUIPMENT: one GPS FRPA-3 (Fixed Reception Pattern Antenna); one GPS AE-4 (Antenna Electronics Amplifier); one RCVR-3A (Airborne GPS Receiver); one GPS FILL PANEL (Crypto Fill Panel); one GPS SWITCHING UNIT (Developed In-house for Integration); three CDNUs (Control Display Navigation Units); one HSI-45 (Horizontal Situation Indicator); one ADI-55V (Attitude Direction Indicator); one LED ANNUNCIATOR PANEL (For Integration); two BDHIs (Bearing Distance Heading Indicators); one TAS (True Airspeed Computer); one PRESSURE ALTIMETER; one ALTITUDE ALERTER; one COURSE/HEADING CONTROL PANEL; one FLIGHT MODE SELECTOR PANEL (For Flight Computer Control); one FCS-105 (Flight Computer); one MDL (Mission Data Loader); two ISSs (Interface Shipsets Developed for Integration); two ARN-118 TACAN RADIO SYSTEMS; one HARRIS DAC (Signal Data Converter); one INDICATOR/CONTROL PANEL (Developed for Integration); one POWER PANEL (Developed for Integration); one IFR ATC-T1400A/T1401 TACAN TEST SET; one IFR NAV-750B VOR TEST SET; one AM/FM-1200S COMMUNICATION TEST SET; two IBM COMPATIBLE 486 COMPUTERS; two ANDOR (1553 Computer Cards); two DTI-1072 (ARINC Computer Cards); one DDC (1553 Computer Card); two NATIONAL INSTRUMENTS (IEEE-488 Computer Cards). HC-130 SPECIFIC EQUIPMENT: two ARN-123 VOR RADIOS; two ARC-182 VHF/UHF COMMUNICATION RADIOS; one 618M-3A VHF COMMUNICATION RADIO; one ARC-182 Emergency Select Panel; one LTN72-9-24 STRAPDOWN INERTIAL NAVIGATION SYSTEM. KC-130 SPECIFIC EQUIPMENT: one ARN-139 TACAN RADIO; two ARN-126 VOR RADIOS; two ARC-186 VHF COMMUNICATION RADIOS; one ARC-186 Emergency Select Panel; two ARC-210 VHF/UHF COMMUNICATION RADIOS; one LTN72-9-20 STRAPDOWN INERTIAL NAVIGATION SYSTEM; one LTN72-9-21 STRAPDOWN INERTIAL NAVIGATION SYSTEM; one LTN72-9-90 STRAPDOWN INERTIAL NAVIGATION SYSTEM;

The facilities and equipment of this lab are not shared with any other functions. This facility is unique to the DOD, in that, it is the only C-130

communication/navigation equipment replication laboratory in existence and allows for a complete range of testing for both hardware and software which will ultimately be integrated into the fleet.

CARCO Flight Motion Simulator (CFMS)

The CFMS supports aircraft integration, C3I Airborne, and RDT&E Engineering Development. The CFMS is used to identify system errors, evaluate system performance and system readiness for flight testing. It consists of a three axis rate table, CFMS control electronics and a i486PC with a IEEE488 interface card. The equipment is not unique, however, the CFMS resides in the Inertial Facility at NCCOSC RDTE DIV Warminster which is located in the most seismically quiet area in the United States.

Ocean Sciences Laboratory

The Ocean Sciences Laboratory provides more than 11,500 square feet of specialized spaces to support basic and applied research for Navy requirements. A flow-through seawater system delivers San Diego Bay water into about half of these labs for experimental uses. Unique and specialized instrumentation for environmental analyses include atomic absorption spectrophotometry, ICP atomic emission spectrophotometry, gas chromatography, high performance liquid chromatography (HPLC), gas chromatography/mass spectrometry (GC/MS), ultraviolet-visible spectrometry, scanning spectro-fluorometry, xray fluorescence, electrochemical instrumentation, electrophoresis instrumentation, scanning electron microscopy and cell culture instrumentation. All lab spaces are equipped with the most current analytical instrumentation. Nearby pier space is available for environmental survey and support craft. Several mobile assessment and monitoring capabilities are also located adjacent to this facility.

Unique to Federal Government: The Ocean Sciences Laboratory houses a fully-equipped chemistry, biology and sensor instrumentation development facility with state-of-the-science capabilities for marine environmental quality and ocean science research applications. Proximity and access to a broad range of naval ship and shore facilities in the immediate San Diego area serves to provide a unique environment for applied science and technology research efforts. This capability is unique to the Federal Government.

Marine Environmental Survey Capability (MESC)

The Marine Environmental Survey Capability (MESC) is housed on the 40 foot custom built research vessel R/V ECOS in San Diego Bay and provides the Navy with a capability to measure multiple environmental parameters in real-time incorporating a

data processing/ management system which allows near-real time mapping of significant environmental parameters.

Unique to Federal Government: The Marine Environmental Survey Capability (MESC) provides for the rapid continuous measurement and mapping of environmental chemical, physical and biological parameters in marine environments such as navy harbors. MESC is a fully integrated system which incorporates navigation, data logging, and a number of NCCOSC RDTE DIV developed sensors which provides a unique capability to assess and map information about the marine environment. This capability is unique to the Federal Government.

Site Characterization and Analysis Penetrometer System (SCAPS)

The Site Characterization and Analysis Penetrometer System (SCAPS) provides the Navy with a capability to detect and measure petroleum, oil and lubricant (POL) contaminants in the soil at hazardous waste sites with a mobile, real-time, in-situ laser/fiber optic/computer-based system. Plume definition and mapping before remediation and verification of cleanup after remediation are accomplished. State-of-the-art optical, data processing and computer equipment is installed on board a 20-ton all wheel drive cone penetrometer vehicle.

Materials Research Laboratory

The facility is used to conduct research and development in the electronic and magnetic properties of synthetic materials such as ceramics, polymers, and organic solids, as well as in electrochemistry and high-energy-density batteries. Materials are prepared and tested in the laboratory, characterized electrically, magnetically and structurally, and evaluated as suitable devices and components for future Navy systems.

Propagation Test Facility

The primary purpose of the Propagation Test Facility is to simulate typical radio, radar, and electrooptic shipboard environments from which both propagation measurements and system performance assessment studies can be made. The most important aspects of this facility are an unobstructed view of the ocean's horizon at typical shipboard heights (50 to 100 feet above sea level); the rise of Point Loma peninsula to an altitude of approximately 400 feet behind the facility, providing reduction of nearby electromagnetic transmissions from the greater San Diego metropolitan area; the concave coastline and offshore islands of Southern California that provide many options for propagation paths; the Mediterranean climate that produces frequent ducting that is typical of other militarily important areas like the eastern Mediterranean, the Arabian Gulf, and the northern Arabian Sea; the prevailing

westerly wind which produces propagation conditions that are predominately representative of the open-ocean and coastal regions. The nearby Naval Station San Diego makes the fleet and the offshore exercise areas readily accessible for shipboard tests and evaluations.

Unique to US: The Propagation Test Facility is unique to the U.S. because of its physical siting, geographic configuration, climatic regime, and its proximity to both the fleet and offshore fleet operating areas. This facility can not be replicated anywhere in the world.

JTIDS Network Design Lab

The JTIDS Network Design Facility is currently the only DoD laboratory supporting the USN operational fleet in the analysis, design, development and distribution of the planning and control data for the JTIDS/Link 16 system. This data enables fleet users of the JTIDS/Link 16 to dynamically tailor their communications equipment to the operational need at hand. The JTIDS Network Design Facility is a fully functional fleet support asset, and has been developed in concert with the JTIDS system now deployed in the Carl Vinson Battlegroup, and soon to be deployed in the Constellation Battlegroup. By 1998, all USN major ship combatants and a majority of USN air wings will be outfitted with the JTIDS/Link 16 System. Additionally, the MIDS program, a NATO partnership development of a smaller JTIDS terminal, lead by the USN, is intending to use the Network Design and Development function built for the JTIDS life cycle.

The JTIDS Network Design Facility occupies a separate laboratory within the building complex of the NCCOSC RDT&E DET Warminster, PA. This laboratory provides 1100 sq. ft. of dedicated space to development and implementation of this fleet support function. This facility is unique in its functionality by virtue of the operational requirement designating a single source for all fleet Link 16 planning and control data, as well as the by the unique experience and talent of the engineers, and software design tools developed by those engineers, to support this function. The USN is currently the largest user of the JTIDS/Link 16, and has the only mature network management system, (directly supported by this facility), in full conformance with the JCS Concept of Operations for JTIDS. This combination of engineering talent, hardware and software development environment, and an average of ten (10) years of experience among the seven primary system experts with the practice of JTIDS network design and development, has provided a consistent and fault-free product to the fleet throughout the JTIDS/Link 16 test program and into the system IOC. Additionally, this laboratory has demonstrated through several test program activities, and OSD-sponsored demonstration programs (such as the Joint Air Defense Organization/Joint Engagement Zone), that it is fully capable of supporting and implementing all Joint Tactical C4I operational requirements.

Coupled with the NCCOSC RDTE DIV San Diego System Integration Facility, NCCOSC RDT&E Division offers a federated system of laboratories to support Joint Requirements in JTIDS Network Design. This latter capability is especially significant in timely response to new and unfolding events, allowing NCCOSC RDTE DIV to deal rapidly with all players in all tactical arenas. Both east and west coast operations can provide rapid access to JTIDS System experts to virtually all Commands (USN, USA, USAF) requiring it. In particular, between both east and west coast operations, the capability to handle the full Joint Service Network Design function is possible without requiring additional space.

Microelectronics Computer Aided Design (CAD) Facility

The Microelectronics Computer Aided Design (CAD) Facility is used for integrated circuit design to support research, design, test and evaluation for Space and naval Warfare Systems Command (SPAWAR) and Trident program activities. Tasks include full custom, semi-custom and digital system and sub-system development.

Radiometric Measurements Facility

The purpose of the Radiometric Measurements Facility is the characterization of high-sensitivity photon detectors. The facility requires controlled temperature and humidity and a special room with no light leaks, low reflectivity surfaces, non-fluorescent lighting, high-voltage and signal bulkhead feed throughs.

Optoelectronic Device Characterization Facility

The purpose of the Optoelectronic Device Characterization Facility is to characterize photonic components to frequencies of 50 GHz.

Infrared Focal Plane Array Test Facility

The purpose of the Infrared Focal Plane Array Test Facility is to test and evaluate infrared focal plane components in clear and simulated radiation environments.

Unique to US: Complete medium to long wavelength (2 - 40 micron) measurement capability exists in this one facility for infrared focal plane arrays in both benign and radiation environments. The capability provides measurements in an environment which simulates low thermal background radiation, i.e., lower than the temperature of liquid helium. This capability is unique to the United States.

Long Wavelength Infrared (LWIR) Filters and materials Evaluation Laboratory

The purpose of the Long Wavelength Infrared Filters and Materials Evaluation Laboratory is to test and evaluate LWIR filters and materials.

Unique to US: The Long Wavelength Infrared Filters and Materials Evaluation Laboratory has been developed over the last thirty years in order to address fundamental radiometric issues associated with LWIR applications for both DoD and civilian projects. This facility's pre-eminent standing in the United States infrared technology and research communities has been achieved through development of unique test apparatuses, test methodology and personnel expertise over this time frame. Critical technical issues involving emissive, transmissive and reflective properties of optical components are identified and investigated using spectrophotometric equipment specifically designed to test the state-of-the-art in precision controlled cryogenic environments. No other facility in the United States, government owned or private, has the test hardware or the expertise to provide this support for the myriad military surveillance, meteorogical and astronomical programs which consistently fund this laboratory.

Electronic Packaging Facility

The purpose of the Electronic Packaging Facility is the packaging of electronic devices and testing these devices to military specifications. Packaging includes die separation, die bonding, wire bonding, and sealing devices in a hermetic enclosure. Testing includes device burn-in, leak testing, temperature cycling, and particle impact noise detection. The facility has 18 Mega ohm deionized water, appropriate plumbing for gasses, house vacuum for backing pumps, and fume hoods for chemical work.

Microelectronics Laboratory

The purpose of the Microelectronics Lab is to provide expertise in the research and exploratory development of microelectronics in support of the C3I, Navy fleet systems, and Ocean Surveillance missions. A partial list of the laboratory equipment follows: Gemini II Epitaxial Reactor, Eaton Ion Implanter, GCA XLS I-Line Stepper, Perkin Elmer Aligner, Bruce Furnaces - Four Banks, Varian Metalization System, Drytek Metal Etcher, Poly Etcher 5000, 1513 Oxide Etcher, Electron Microscope, Credence VLSI Tester, and Sentry VII Tester. The Microelectronics Lab requires Class 10 and Class 100 Clean Room conditions with monitoring capabilities, vibration free building foundation, cryogenic storage and handling equipment, temperature and humidity control. The vibration free building is required to support the photolithographic, quality control, diagnostic and test equipment. Laminar flow ceilings and work stations with HEPA filters are required for particulate control. Environmental control requirement for the Microelectronics Lab include temperature control at 20 degrees C +/- 2 degrees; humidity control at 45% +/- 5%; and five air scrubbers are required for the gas handling, wet chemical etching, dry plasma etching and deposition systems.

Electronic Materials Science Facility

The Electronic Materials Science Facility is used for semiconductor materials development, and electronic and optoelectronic device development. The facility includes the Electronic Materials Lab and Class 1000 Clean Room. Environmental control requirements for the Electronic Materials Science Facility include temperature and humidity control for the clean room facility, toxic gas monitoring, and 12,000 cfm vent system with 100% makeup.

Ship Antenna Model Range and Simulation Facility

The Center has a capability in simulation and Modeling of ship communications systems unsurpassed in the world. This facility consists of a flat ground plane for rotating modeled ships, tracks and towers for equipment movement, control systems for the test equipment, data collection systems, data reduction computers, plotters, and analysis software and components. The facility includes a modeling machine shop in which a scaled model of every ship in the fleet has been built for evaluations. It is a major installation developed over the past 40 years. This facility, along with the simulation facility, provides a basis for analysis and measurement of shipboard antennas.

The Ship Antenna Simulation Facility operates in conjunction with the Antenna Model Range. It provides software modeling and simulation of systems, confirmation of models, and extensions beyond the test capability of the Model Range. Evaluates electromagnetic propagation effects, electromagnetic engineering systems and structural resonant responses.

The Ship Antenna Model Range and Simulation Facility is unique to US. No other facility exists like it. There is no requirement for this effort in commercial facilities, and no other service has combat ships needing this complex interaction.

SHF Satellite Communications Test Facility

It contains a complete SHF Satcom terminal and test equipment to support follow-on SHF equipment development.

EHF Satellite Communications Terminal Test Facility

This facility provides a basis for ship, submarine, and shore site terminal development and follow-on support in MILSTAR EHF systems.

Radar Test Range

Six in-house developed radars and standard product radars are used to support

several programs. The frequency bands used are: HF, UHF, S, C, X Ku, and millimeter wave. The radar range has communication links (both voice and data) with the various test targets, and can provide links to other facilities for coordinated testing. The radar range is capable of using several different waveforms, such as stepped frequency, chirp, fixed, instantaneous wideband, and frequency hopping signals. One radar is capable of stepped frequency while changing signal polarization.

The Radar Test Range is unique to the U.S. because of its waveform and frequency capabilities.

Bayside Acoustic Systems Computational Capability

The Bayside Acoustic Systems Computing Capability (BASCC) laboratory is a unique facility which provides a wide range of state-of-the-art simulation and assessment models for acoustic and non-acoustic (magnetic and electro-magnetic) sensors in fully range-dependent ocean/geophysical environments. In addition to this robust performance prediction and area assessment capability, which is not available as a unified toolset anywhere else, there are a wide range of acoustic and non-acoustic performance assessment and data analysis tools developed by NCCOSC RDTE DIV for LFA/SURTASS, ADS and ONT Block programs which are not available outside BASCC. This lab will soon be incorporated with the lab supporting the Multistatic Active Surveillance ONR Block program. Other processing will include algorithm development, data analysis, and verification of system capability. Combined assets, including numerous SUN Sparcstations, other hardware and software would require in excess of $4M to replicate.

Navy Tactical Command System Afloat (NTCS-A) Testbed And Integration Facility

The NTCS-A testbed and integration facility provides a land-based test site for an aircraft carrier command and control system to support development, integration and interoperability testing, new software duplication and release to all afloat platforms. Also provides a mockup of an aircraft carrier command and control system installation to support development, integration and interoperability testing. On-line communications to ships and shore activities worldwide provide a means to help diagnose and fix problems remotely. The NTCS-A testbed and integration facility work is done in two laboratories, one at the Secret level and one at the Sensitive Compartmented Information (SCI) level.

Unique to DoD: This facility is unique to DoD due to its communications connectivity to Navy/Joint systems and ready availability of command and control systems and technology laboratories.

High Performance Computing And Theater Level Planning Laboratory

Provides a land-based test site of a major theater level planning system; supports development, integration and interoperability testing; and adapts technology and the use of modern high performance computers to increase the accuracy, performance and timeliness of the planning.

Unique to DoD: This facility is unique to DoD due to its communications connectivity to Navy/Joint systems and ready availability of command and control systems and technology laboratories.

Navy Command and Control System Ashore Integration Test Facility

Provides a land-based test site of a theater command center command and control system installation. It supports development, integration and interoperability testing plus on-line communications to ships and shore activities worldwide to support the gathering of requirements and to define user system needs.

Unique to DoD: This facility is unique to DoD due to its communications connectivity to Navy/Joint systems and ready availability of command and control systems and technology laboratories.

Navy Intelligence Development, Integration And Test Facility

Provides a land-based development/test site of an Ocean Surveillance Information System Evolutionary Development system. Supports the development, integration and interoperability testing of major intelligence and advanced applications such as collection requirements management. It also provides on-line communications to ships and selected intelligence shore activities worldwide to support the gathering of requirements and to define user system needs.

Unique to DoD: This facility is unique to DoD due to its communications connectivity to Navy/Joint systems and ready availability of command and control systems and technology laboratories.

Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) Laboratory

Provides a land-based test site of an OSIS Evolutionary Development (OED) facility to support development, integration and interoperability testing. It also provides on-line communications to ships and selected intelligence shore activities worldwide to support the gathering of requirements and to define user system needs.

Unique to DoD: This facility is unique to DoD due to its communications connectivity to Navy/Joint systems and ready availability of command and control systems and technology

laboratories.

Distributed Command/Control (DC2) Laboratory

The Distributed Command/Control (DC2) Laboratory is responsible for the development, demonstration, and transition of distributed technologies for combat systems and command and control systems for the Navy so that they may meet the application requirements of today and tomorrow. The evolution of these systems is being done through the use of software engineering and use of base technologies such as networks and standard computer communication protocols. These are enhanced through the incorporation of distributed real-time system, distributed operating system, distributed database management system, and distributed security technologies as they are developed. Most importantly, they are being integrated into a distributed computing environment that will support current and future Navy, joint, dual-use and non-Department of Defense applications.

Systems Integration Facility (SIF)

The primary purpose of the System Integration Facility (SIF) is to conduct integration testing of Link-16 systems, including Joint Tactical Information Distribution System (JTIDS); Multi-Function Information Distribution System (MIDS); Advanced Combat Direction Systems (ACDS); Airborne Tactical Data Systems (ATDS); and Command and Control Processor (C2P) on Tactical Aircraft and Surface Combatants. SIF also provides C4I test support in preparation for Carrier Battle Group deployments.

This facility is unique to DoD. The RF network delay capability and simultaneous simulation capability for Link 11 and Link 4A is unique to DoD and Allied JTIDS testbed.

Multi-Link Laboratory

The primary purpose of the Multi-Link Laboratory is to (1) perform development and production testing of current and new versions of Navy tactical data link terminals, including Links 11, 4A and 22; the Link-11 Display System (LEDS); and (2) to support integration and interoperability testing of Advanced Combat Direction Systems (ACDS); Airborne Tactical Data Systems (ATDS); Command and Control Processor (C2P); and other Command and Control Systems for tactical surface and air platforms for the U.S. Navy, navies of allied countries, the U.S. Coast Guard and the U. S. Customs Service.

Unique to DoD: Provides Links 11/4A/22/CSS certification facility for Navy data terminal sets.

E-2C Airborne Tactical Data Systems (ATDS) Integration Laboratory

The E-2C ATDS Integration Laboratory is a dedicated multi-configuration development center designed to support the Navy's effort in the design, development, test, and evaluation of tactical software, software development tools and simulation. This is the Navy's only software support facility for E- 2C aircraft. Three configurations of E-2C aircraft are supported. Development and evaluation of software for Foreign Military Sales cases is also supported in this facility. This laboratory is designated the software support activity for intelligence files utilized by the E-2C aircraft. This facility supports Navy and Joint interoperability systems testing.

Unique to DoD. Lab is made up of Airborne, militarized electronics (computers, tape units, displays, simulators, disks, etc.). There is no other use for the system other than to build and integrate tactical software for the E2C ATDS.

Combat Direction System (CDS) Development and Evaluation Site (CDES)

The Combat Direction System Development and Evaluation Site (CDES) is a dedicated multi-configurable development center designed to support the Navy's effort in the design, development, test and evaluation of new concepts, equipment and software associated with a family of highly complex, automated Advanced Combat Direction Systems (ACDS), Command and Control Processor (C2P), Range NTDS Upgrade System (RNUS), Data Links (Link-11, Link 4A, Link 16) and Advanced Display System (ADS) planned for deployment on current and future surface combatants. The CDES is a separate entity from the critical path of shipbuilding programs and is capable of life cycle support throughout the development and certification of new systems. It also provides a means of training those shipboard personnel scheduled for involvement in initial system Operational Evaluation (OPEVAL).

Unique to DoD: Lab comprises shipboard and militarized electronics (computers, tape units, displays, disks, etc.). There is no use for the system external to the Navy.

Research Evaluation and Systems Analysis (RESA) Facility

The purpose of the RESA facility is to provide Command Control and Communications (C3) simulation in support of RDT&E and Joint Training Requirements.

Unique to DoD: Only Navy multi-warfare command control and communications (C3) analysis facility.

Marine Air Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Laboratory.

The Marine Air Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS)

Laboratory provides a simulation combat environment for commands and their staffs to practice and sharpen decision making skills and to assist in the command and control aspects of tactical field exercises.

Unique to DoD: MTWS is the only command control and communications training facility in development for use by the Marine Corps.

Distributed Simulation Internet (DSI) Advanced Simulation Laboratory (DASL)/ Secure DSI Integration Simulation Laboratory (SISL)

The DASL/SISL facility provides hardware, software, simulations and gateways to other simulations.

The facility is not unique, but there are very limited secure laboratories with DSI access.

Display Systems Development Laboratory

The laboratory supports Advanced Combat Direction System (ACDS) hardware engineering support tasks involving documentation and engineering change proposals (ECP's) testing and verification. Facility is also used to support advanced system design and testing for new systems such as Map Server and Digital Radar Video Data Distribution System (DRVDDS) programs.

Unique to DoD: In order to provide the hardware support testing, the facility must include hardware such as the OJ-535/OL-318 and OJ-451(V)9 display consoles, the OL-191(V)1 Radar Azimuth Converter/Radar Data Switchboard/Radar Video Switchboard/Central Data Buffer/Power Supply and the AN/UYK-7 3-bay NTDS computers.

Over the Horizon Targeting (OTH-T) Reconfigurable Land Based Test Site (RLBTS)

The primary purpose of the OTH-T RLBTS is to provide world wide connectivity to OTH-T systems and laboratories for all Services and Allied countries in support of OTH-T C4I configuration validation studies; validation of C4I system requirements and architecture; management of ADP telecommunications standards by the Commander, Naval Computer Telecommunications Command (NAVCOMTELCOM); OTH-T interoperability testing; Fleet OTH-T systems engineering; Fleet exercise/ Command Center support, for overall responsibility for the end-to-end effectiveness of the Navy's C4I systems in the Fleet; and Battle Group Network analysis and feedback to PACFLT and LANTFLT Command Centers.

Unique to DoD. Provides a certification environment for the U.S. Navy's OTH-T systems.

Command Center of the Future

The Command Center of the Future is a command briefing center and advanced technology demonstration theater for evaluating the use of new technology.

Unique to DoD. The Command Center of the Future is a unique facility in that it takes advantage of demonstrating advanced technology to many high level visitors and thus gaining insight to potentially successful future system developments.

Deployable Surveillance Integration Facility

This facility was constructed in 1984 as a special facility for the fabrication and handling of fiber optic cabled systems. The building is divided into three areas. One area is a fiber-optic laboratory which contains state-of-the-art instrumentation that automatically measure the characteristics of optical fibers and allows for special undersea cable tests such as oxygen absorption in optical fibers. Another bay of the building is designed to allow the winding of cables into packs and the handling of large amounts of cable and telemetry hardware. The remaining section of the building allows for the assembly of telemetry/test systems and components. The facility also has a pressure test capability for testing small system components. The building has supported most of the projects involving fiber optic cables since its completion. It is also sited such that cabled systems installed off Pt. Loma during the summer of 1994 in the Southern California Shallow Water Test Bed will be terminated in the building. It is a unique facility due to its location and equipment. It is capable of receiving and handling the large amounts of cable, vans and other equipment associated with undersea cabled systems.

Certain functions of this facility would be extremely difficult to replicate or relocate at another site, namely, those associated with the Southern California Shallow Water Test Bed. Cables come ashore here from offshore locations where undersea surveillance experiments are conducted. This is the only site where over-the-shore cables will be permitted after implementation of the environmentally protected zone on Pt. Loma. Cost replacement would be difficult to estimate since, although the equipment is portable, the site cannot be duplicated. A rough estimate of replacement cost would be approximately $2.75M.

The Simulated Ships Motion Test Facility

This facility occupies 4,000 sq. ft. and houses three ship motion simulators (Scorsby), including the world's largest precision ship motion simulator (Benton Model 1592) installed

in FY93. The simulators are fully automated to permit pre-programming of complex ship's motion in all three axes (roll, pitch, and heading). The motions can be programmed to accurately simulate various mission scenarios, either individually or simultaneously, with varying amplitude and period (see Table below). Each simulator is instrumented to permit precise dynamic readout and recording of all navigation output parameters.

Simulator	Weight Capacity	Motion Angle/Period	Accuracy Static/Dynamic	
Benton Model 1592 (one of-a-kind)	3000 lbs.	Roll+/-40 deg/7sec Pitch+/-35 deg/6 sec Yaw+/- 10 deg/11 sec		1 arc sec/2 arc sec
Contraves/Goertz Model 53SM	1000 lbs.	Same as above	2 arc sec/4 arc sec	
Navy design(1950's)	2500 lbs.	Same as above	5 arc sec/10 arc sec	

The weight of the simulators range from 8 to 15 tons each. They are required for developing and testing ship and submarine gyrocompasses and inertial navigation systems and are therefore designed to handle test articles of up to 3000 lbs. Each simulator is mounted in a concrete well 20 ft. deep, a total of 230 tons of concrete was used to install the three simulators. Each well is attached to bedrock to provide the necessary reference stability and to minimize the effects of vibration on system performance evaluation. One of the simulators is housed in an environmental chamber (temperature/humidity) approximately 27 ft. long, 30 ft. wide and 14 ft. high to allow testing to be performed under varying conditions of temperature (32 to 125 deg F) and humidity (0-95%).

The facility is located adjacent to a loading dock and provides for easy forklift access to each of the simulator test stations. A high ceiling (>13 ft) and monorail/hoist (4000 lb. capacity) facilitates the installation and removal of test articles. Direct sighting of the North Star is possible through an optical tube which penetrates the outer building wall and provides a precise heading reference (<1 arc sec) for the facility.

The Facility is used to evaluate the navigation performance of the Navy's marine gyrocompasses and inertial navigators. More specifically, the Facility is used to:

-- Establish a performance database for each gyrocompass/inertial navigation system under test.

-- Evaluate and characterize system error models

-- Characterize systems dynamic outputs to users (e.g. Missile Alignment Systems, Combat Systems, etc.)

-- Evaluate new system designs and improvements; provide quantitative

measurement of improvement

-- Duplicate, investigate and resolve fleet reported problems; isolate problem to user system, inertial navigation system or component (gyro, accelerometer).

The Simulated Ships Motion Test Facility located at NCCOSC RDTE DIV, Warminster Det. is unique to the U.S. It is the only Government or private sector facility capable of dynamically measuring marine inertial system attitude performance to current Navy specifications. The motion simulators have been designed for the development and test of very high accuracy ring laser, fiber optic and super conducting gyro technology navigation systems. The newest of these simulators has the capability (i.e. load capacity, accuracy) to test a full ships navigation suite (dual navigation system) and meets all known future Navy requirements for system performance evaluation.

Oceanographic Systems Program (OSP) Laboratory

A 6000 sq ft laboratory containing state-of-the-art navigation, bathymetric sonar and survey data refinement systems. It supports the Ocean Survey Program by duplicating the existing and future mission survey equipment suites aboard four OSP vessels. Simulates complete mission survey operations as conducted aboard ship for development of precise navigation, bathymetric and other geophysical systems.

It is used to: design, develop, and integrate advanced navigation, sonar, and survey data refinement systems; develop advanced algorithms for high resolution wide swath sonar signal processing and survey data refinement; conduct ocean surveillance and emerging ASW technology developments; develop and assess new survey navigation concepts; and assess and improve survey system design and performance.

It is the only facility in the country that has a complete mission survey suite to support development and upgrades of deep ocean and hydrographic survey missions. Facility supports both the United States and United Kingdom survey ship programs.

Excess "Lab" Capacity Information Transfer Management Structure

This facility provides integrated management of the automated, distributed, fiber optics connected information transfer system and provides management of the connectivity between all major command, control, communications, computers and intelligence and ocean surveillance facilities, and the interconnect between ELF to EHF and lasers. It also provides a controlled environment in which to determine the applicability and utility of commercial off-the-shelf and non developmental item equipment in providing joint C4I and ocean surveillance capabilities. It includes termination of networks, secure cables, cryptos, etc. in a locked facility.

Surveillance Test and Integration Center (STIC)

STIC is a secure, environmentally controlled computer laboratory comprised within three interconnected working spaces, totaling approximately 24,000 square feet. STIC provides the facilities and resources to support research, development, integration, test, and life-cycle support of undersea surveillance subsystems. STIC is also used to support evaluation of Undersea Warfare concepts, Over the Horizon Radar, display technology, algorithms, systems analysis and technology insertion demonstrations for the Navy, Contractors, and other agencies.

STIC has a minimum of one each surveillance system hardware and simulators which are interconnected so as to provide full integration for any user. There are over 300 instrument racks, 4 VAX systems, 10 large display consoles, 200 computer monitors or terminals interconnected by FDDI, ethernet, hard wire, or high speed data switches.

STIC is unique within the Navy. Although there are fleet facilities and contractor facilities that possess similar equipment, there are no other lab facilities which have all the equipment and simulators assembled and integrated for testing and development work. STIC is unique to the Federal Government in its support of the Drug Enforcement Administration.

Tactical Engineering Analysis Lab

A SCIF providing computers and communications for the analysis and development of classified intelligence tasks. Unique to the DoD because of its utilization and processing of multi-service classified intelligence information.

Tactical Systems Lab

A multi-service/multi-user development and demonstration lab at the GENSER Secret level. It operates with multiple TRE (Tactical Receive Equipment) and TDDS (TRAP Data Dissemination System) processors along with an array of fielded and developmental Tactical Data Processor (TDP) systems which, together with reception, broadcast and relay capabilities, give the TSL the flexibility it needs to provide a wide variety of services and functions to the TADIXS-B intelligence community. Unique to the DoD because of its utilization and processing of multi-service classified intelligence information.

Processing and Data Exploitation Center

An in-house SCIF laboratory facility for conducting data fusion and information processing research for the exploitation of national systems products for National, Unified and Special Command, and Joint service and tactical applications. Unique to the DoD because of its utilization and processing of multi-service classified intelligence

information.

Space and Electronic Warfare Simulator (SEWSIM)

SEWSIM is unique at all three levels (DOD, Federal Gov., and US) since it is the only high resolution simulation in the world specifically dedicated to analyzing Space and Electronic Warfare (SEW) systems across the entire spectrum of Army, Navy, Air Force and Marines. In addition, it is capable of simulating SEW assets of all major foreign countries.

Special Signals Equipment Space Simulator (SWIFT)

SWIFT is unique at all three levels since it is the only facility in the world which replicates an entire Special Signals Equipment Space (SSES) found on major U.S. Naval combatants.

Microwave and Millimeter-wave Antenna Range Complex

The antenna range is used in the design, development, test and evaluation of antenna systems being developed at NCCOSC RDTE DIV. It is also used for the evaluation, calibration and servicing of antennas sent to NCCOSC RDTE DIV for that purpose. The location across the natural deep canyons on the Point Loma peninsula provide reflection-free operation, electromagnetic isolation, access to testing with ships at sea and an over water link to San Clemente Island. The antenna range consists of 8 outdoor signal paths situated across canyons on the Point Loma Naval Reserve, and three anechoic chambers. It is bounded on the east by San Diego Bay and on the west by the Pacific Ocean.

The antenna range is equipped with 3-channel receivers, 1-channel receivers, pattern recorders and pedestals. The pedestals have weight capacity from a few hundred pounds to 30,000 pounds. Signal generators and synthesizers, coupled with solid state and TWT amplifiers, provide for transmission over the frequency range from 0.045 GHz to 110 GHz, although the ranges are usually not used below 0.4 GHz. In-house developed software and hardware allows for digital recording of antenna pattern data on one of the signal paths and in one of the chambers. Amplitude measurements have been made to tenths of a dB and angle data recorded to tenths of a degree. Boresight measurements on NESP (Navy MILSTAR) antennas are to 0.03 degrees (RSS).

Uniqueness: Location over natural canyons, access to Naval ships at sea and in the bay, over-water links capable to San Clemente Island, Camp Pendleton and North Island Naval Air Station are some of the unique features of this facility. The unique contours of the canyons and the natural vegetation provide for almost reflection-free and

electromagnetic interference-free operation, which would be difficult to duplicate. Mild climate conditions allow for nearly year-round range operation, with typically 2000 hours of range availability. This availability can be extended greatly, since many of the signal paths and all of the three chambers can be operated independently. At one time during FY94 three of the signal paths and all three chambers were in operation simultaneously.

Radar Signal Processing Laboratory

The Radar Signal Processing Laboratory is equipped to provide support in analyzing and processing Imagery, Radar and Signal data. In addition, there are many resources available to assist in developing general engineering software. The RSPL consists of a 3-bay laboratory and is open and manned during normal business hours and can be manned on a 24-hour basis when required by project needs.

The RSPL is a stand alone ADP processing and storage facility with no outside connectivity (local area networks, modems, dedicated lines, etc.). The RSPL is certified for open storage of SECRET material and is accredited for ADP processing of data at the SECRET level.

Uniqueness: The Radar Signal Processing Laboratory is unique because it is co-located with the NCCOSC Ship and Aircraft Radar Signature test area located just west of Pt. Loma, Ca. This co-location allows for 24 hour real-time processing of radar signature data in support of naval ship and aircraft measurement efforts. The largest data base of US combatant ship and aircraft Radar Cross Section resides within the Radar Signal Processing Laboratory. In house developed software is used for processing of radar signature data into ISAR Image and RCS data products.

Secure Facilities, Vaults And Underground Bunkers

NCCOSC RDTE DIV has the largest set of Navy Sensitive Compartmented Information (SCI) facilities (SCIFs) outside Washington D.C., used for developing, testing, and operating communication systems that use highly classified data and major programs combining the surveillance, command and control, and communications efforts into major military systems. Two Special Intelligence Communications (SPINTCOMM) facilities exist in the Center's intelligence structure. The SPINTCOMMs operate and maintain a variety of crypto, modem, router, facsimile and computer equipment for secure communications and related support for extremely highly classified work throughout the Center.

SCIF standards must be met to provide laboratory and other working space for the wide variety of intelligence-related command and control and surveillance programs at

the Center. Lack of adequate accredited SCIF spaces and SCI communications support (SPINTCOMM facilities must be in SCIFs) would cause severe and in most cases complete degradation in the ability to perform major claimant assigned tasking.

Although not totally unique, no known comparable support facility(s) currently exist on the West Coast which could duplicate this Centers's SCI and other compartmented support assets. Major on-going SCI communications/computer programs support U&S and Fleet Commanders including JCS, USCINCPAC, CINCPACFLT, CINCUSACOM, CINCLANTFLT, CINCENT, COMNAVENTCOM, CINCSPACECOM, CINCNORAD, CINCSOCOM, and COMNAVSPECWARCOM plus agencies including CIA, NSA, and DIA. Additionally, the NCCOSC RDTE DIV SPINTCOMM facilities have served in the role of alternate intelligence command center for communications purposes for major fleet commanders and as direct SCI communications support for other high level officials.

Indoor Robotics Development/Test Facility

The Indoor Robotics Development/Test Facility is used for the development, test, and evaluation of indoor automated systems, including robotics software and hardware architectures.

Unique to DoD: This is the only remaining DoD indoor robotics development and test facility. Additionally, this facility is unique in both hardware and personnel. The lab personnel have a combined robotics experience of over 85 years, and have access to numerous robotics test platforms and equipment from which to conduct development and testing efforts.

Survivable Adaptable Fiber-Optic Embedded Network Development Site

Used to develop hardware, software and firmware for ship interior communication, addressing interface to combat systems and combat damage survivability issues. It also provides a base to address hull, machinery and electrical systems effects.

Communications Support System Simulation Facility

Provides an environment for evaluating software components being developed for communication control systems. Analysis includes fleet protocol definition, operator interfaces, and system engineering.

Navy UHF Satellite Communications Test Facility

Supports information exchange subsystem development and testing, direct support to

fleet exercises, determining new requirements, and support developing system improvements. It includes an operating fleet satcom radio room with all RF systems. In addition, it contains a complete test and analysis capability.

VLF/LF Integrated Test Facility

Includes simulated terminals, submarine radio room RF equipment, control devices , software evaluation, test equipment, analysis tools.

The VLF/LF Integrated Test Facility is unique to US. No other activity has submarines to model and test. ELF/VLF/LF is almost exclusively used for submarine communications.

High Performance Computer Processing Facility

The High Performance Computer Processing Facility provides: triple graphics pipeline (Reality Engine Twos), four processor Silicon Graphics ONYX system with Sinius Video Option (30 frames/sec digitization of video in and out). A 10' x 10' surround-screen "cave" environment allows multiple operators, mockups, etc. to be immersed in and interact with stereoscopic imagery in a 270 degree field of view. The VIPER Lab is located in a secure vault providing one of the few classified virtual environments available in the country. The visualization capability of the ONYX complements the computing power of the Intel Paragon. The Paragon provides state-of -the-art, massively parallel processing to support classified RDT&E efforts of all components of the DoD. In addition to remote access, the Paragon facility is configured to provide unique hands-on access for specialized, real-time I/O requirements and contains numerous workstations and visualization stations for development, operation, and data analysis.

The facility is unique to the DoD in that it provides support for hands-on access to massively parallel processing equipment for development of embedded HPC applications.

Inertial Navigation Facility (INFAC)

INFAC supports the Navy air and marine surface and subsurface navigation RDT&E in evaluating the performance related capabilities of inertial components (gyroscopes and accelerometers) in an environment that is free of external influences. Since these components are the prime drivers of inertial navigator performance, determining their performance characteristics is crucial to understanding and improving inertial navigation in the fleet.

The INFAC is recognized as the most seismically stable inertial navigation facility in the United States. It was designed and built specifically to evaluate precision inertial sensors (gyroscopes and accelerometers). It is unique partly because of the benefits it derives from location. The concept behind INFAC's design was to locate the facility to minimize seismic and other noise disturbances to the inertial sensors being tested and then to construct the facility so as to minimize local man-made disturbances. INFAC's location is remote from vehicular traffic as a site that is seismically quiet and where the bedrock is near ground level. The building is circular in shape to minimize wind effects and constructed slightly below grade to permit the attachment of short, squat piers directly to bedrock. To reduce the introduction of shock and vibration, required support machinery is shock and vibration isolated and housed in a separate building. Noise from local foot traffic is minimized by suspending the floor out to the vibration damped footings of INFAC.

GPS laboratory

Since 1980, NCCOSC RDTE DIV's GPS laboratory has been DOD's lead laboratory for developing GPS receivers and GPS receiver test tools. The lab reproduces a complete host vehicle environment through a coordinated, real-time simulation of both the GPS satellite signals and host vehicle communications. In this unique development, integration, and test and evaluation environment, GPS receiver hardware and software can be exercised dynamically, under precise and repeatable laboratory conditions. The common support function Air Vehicles Fixed Avionics is 59% of the usage, C4I Afloat is 29% and Weapons Cruise Missile 12%.

The following major equipment suites comprise the GPS Laboratory: Satellite Signal Generator - Generation of GPS satellite constellations with effects of user dynamics under scenario control; Cryptographic Satellite Signal Simulator - same as above including effects of Military denial of accuracy (Selective Availability) and Anti-Spoofing; Monitor Station Receiver Element - GPS control station receiver used primarily for calibration of the lab's GPS simulators; Cesium Beam Frequency Standard (3) - lab frequency synthesis, clocking and synchronization; Commercial GPS Survey Receiver Pair - Centimeter level range calibration of lab simulators, differential references (test controls); Military 3A GPS Receiver (2) - test controls; Military 3S GPS Receiver (2) - test controls; Military MAGR GPS Receiver (2) - test controls; Jammer Rack - Configured to represent RF threats or GPS interference; Screen room (RF shielding) - T&E area immune to stray RF for evaluation of antennae and antennae electronics; Host Vehicle Interface Emulators - reproduction of electrical protocols found on platforms which integrate or will integrate GPS, including: TLAM MK-82; 1397; Synchro; ARINC (various); 1553; PTTI; Supporting Computer Systems - host platform and sensor modeling software, implement real-time controls and support data reduction and analysis, including: VAX Alpha Computers (4); VAX Computers (4); IBM Compatible Computers (Various).

The depth of NCCOSC RDTE DIV's GPS/navigation expertise and experience is unique within the Government, with the most versatile and comprehensive GPS test and evaluation facilities in the United States. The laboratory's Satellite Signal Simulator (SSS) is a system of processors and transmitters that calculates trajectory data and generates realistic RF signals that a GPS receiver would encounter in a live satellite vehicle (SV) environment. To achieve the testing accuracy required for GPS, cesium clocks allow precise time-coordinated RF and host-platform simulation. NCCOSC RDTE DIV has also developed very precise calibration techniques for its simulators, using the monitor station receiver element (MSRE), which is the same receiver the GPS control segment uses for monitoring the satellites. Flexibility in simulation is accomplished by downloading almanac data into the SSS, enabling simulation of a mix of healthy and unhealthy SV'S. NCCOSC RDTE DIV's GPS engineers also readily provide related technological skills and any modifications (or adaptations) the facility requires.

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
Air Vehicles Fixed Avionics	RF/Micro-electronics Laboratory	Technical	2.0	2.0	0
	HC/KC-130 System Integration Lab (SIL)	Technical	0.45	0.45	0
	CH-46 System Integration Lab (SIL)	Technical	0.28	0.28	0
	CARCO Flight Motion Simulator (CFMS)	Technical	1.0	1.0	0
Satellite Systems	SHF Satellite Communications Test Facility	Technical	3.7	3.7	0
	Navy UHF Satcom Test Facility	Technical	2.0	2.0	0
C4I Airborne	JTIDS Network Design Lab	Technical	11.0	11.0	0
	E-2C Airborne Tactical Data Systems (ATDS) Integration Laboratory	Technical	5.0	5.0	0
C4I Afloat	Ship Antenna Model Range and Simulation Facility	Technical	2.5 acres	2.0 acres	0.5 acres
	VLF/LF Integrated Test Facility	Technical	80.0	75.0	5.0
	EHF Satellite Communications Terminal Test Facility	Technical	2.0 acres	1.5 acres	0.5 acres
	Radar Test Range	Technical	N/A	N/A	N/A

	Deployable Surveillance Integration Facility	Technical	23.0	23.0	0
	Bayside Acoustic Systems Computational Facility	Technical	33.0	33.0	0
	Surveillance Systems Offices and Labs	Admin	3.4	3.1	0.3
		Technical	70.2	64.7	5.5
		Storage	10.2	10.0	0.2
		Utility	8.8	7.3	1.5
	Simulated Ships Motion Test Facility	Technical	4.0	4.0	0
	Navy Tactical Command System Afloat (NTCS-A) Testbed And Integration Facility	Technical	4.8	4.3	0.5
	Combat Direction System (CDS) Development and Evaluation Site (CDES)	Technical	11.7	11.2	0.5
	Ocean Survey Systems Integration Lab (OSP)	Technical	6.0	6.0	0
	Survivable Adaptable Fiber-Optic Embedded Network Development Site	Technical	0.8	0.6	0.2
C4I Fixed Ground Based	Information Transfer Management Structure	Technical	0.14	0.14	0
	Secure Facilities, Vaults And Underground Bunkers	Technical	55.0	55.0	0

High Performance Computing And Theater Level Planning Laboratory	Technical	2.3	2.1	0.2
Navy Command and Control System Ashore Integration Test Facility	Technical	4.9	4.4	0.5
Navy Intelligence Development, Integration And Test Facility	Technical	6.6	6.0	0.6
Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) Laboratory	Technical	1.3	1.1	0.2
Distributed Command/Control (DC2) Laboratory	Technical	5.0	5.0	0
Marine Air Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Laboratory	Technical	2.2	2.2	0
Distributed Simulation Internet (DSI) Advanced Simulation Laboratory (DASL)/Secure DSI Integration Simulation Laboratory (SISL)	Technical	2.7	2.7	0
Command Center of the Future	Technical	0.8	0.8	0
Indoor Robotics Development/Test Facility	Admin	0.5	0.4	0.1
	Technical	2.0	2.0	0
	Storage	0.1	0.1	0
	Utility	0.3	0.3	0

	Surveillance Systems Offices and Labs	Admin	4.5	3.9	0.6
		Technical	109.6	105.6	4.0
		Storage	3.9	32.6.0	0.9
		Utility	20.1	217.9	2.2
	Communications Support System Simulation Facility	Technical	0.3	0.3	0
	Tactical Engineering Analysis Lab	Technical	2.6	2.6	0
	Tactical Systems Lab	Technical	16.0	16.0	0
	Processing and Data Exploitation Center	Technical	15.5	15.5	0
	Space and Electronic Warfare Simulator (SEWSIM)	Technical	37.5	37.5	0
	Special Signals Equip. Space Simulator (SWIFT)	Technical	241.7	241.7	0
	Microwave and Millimeter-wave Antenna Range Complex	Technical	35.8	35.8	0
	Radar Signal Processing Laboratory	Technical	17.0	17.0	0
	Secure Facilities, Vaults and Underground Bunkers	Technical	166.7	166.7	0
Environmental Quality	Ocean Sciences Laboratory	Technical	10.9	8.8	2.1
		Storage	0.3	0.2	0.1
		Utility	0.3	0.3	0
	Marine Environmental Survey Capability (MESC)	Technical	0.4	0.4	0
	Site Characterization and Analysis Penetrometer System	Technical	0.85	0.85	0

Advanced Materials	Materials Research Laboratory	Technical	1.75	1.75	0
Environmental Sciences	Environmental Sciences Facilities	Admin	0.3	0.3	0
		Technical	8.26	7.97	0.29
		Storage	2.84	2.82	0.02
		Utility	0.5	0.5	0
Electronic Devices	Microelectronic Computer Aided Design (CAD) Facility	Technical	4.58	2.29	2.29
	Radiometric Measurements Facility	Technical	0.45	0.45	0
		Storage	0.08	0.08	0
		Utility	0.23	0.23	0
	Optoelectronic Device Characterization Facility	Technical	3.75	3.75	0
	Infrared Focal Plane Array Test Facility	Technical	2.1	1.6	0.5
		Storage	0.6	0.36	0.24
		Utility	0.3	0.24	0.06
	Long Wavelength Infrared (LWIR) Filters and Materials Evaluation Facility	Technical	1.25	1.25	0
	Electronic Packaging Facility	Technical	2.4	2.4	0
	Microelectronics Laboratory	Technical	9.4	9.4	0
	Electronic Materials Science Facility	Technical	8.7	7.6	1.1
		Storage	2.3	2.3	0
		Utility	0.5	0.5	0
C4I Airborne 20%, C4I Afloat 40%, C4I Fixed Ground Based 40%	Systems Integration Facility (SIF)	Technical	3.5	3.5	0
	Multi-Link Laboratory	Technical	3.2	3.2	0
C4I Afloat 50%, C4I Fixed Ground Based 50%	Research Evaluation and Systems Analysis (RESA) Facility	Technical	4.0	4.0	0

	Display Systems Development Laboratory	Technical	0.2	0.2	0
	Over the Horizon Targeting (OTH-T) Reconfigurable Land Based Test Site (RLBTS)	Technical	1.5	1.5	0
Electronic Devices 50%, C4I Afloat 50%	Inertial Navigation Facility (INFAC)	Technical	10.0	7.0	3.0
		Utility	4.5	3.6	0.9
Air Vehicles Avionics 59%, C4I Afloat 29%, Weapons Cruise Missile 12%	GPS Lab	Technical	13.0	13.0	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)

AIR VEHICLES FIXED AVIONICS CSF

RF/Microelectronics Lab: Additional tasking could be absorbed in the facility without modification.

CFMS: The CFMS has spare capacity to absorb additional workyears. Minor modifications such as cabling to the system under test needs to be designed and built. Also depending on the system under test data acquisition software will require minor changes.

SIL Lab: The HC/KC-130 SIL currently has the capacity to absorb additional similar workyears categorized in the same common support function with only minor facility modifications. The SIL could be used to simulate various types of aircraft platforms with minor modifications (e.g. addition of specific aircraft avionics, sensors, additional wiring, etc.) The SIL could also be used as a training facility on the operation of the newly integrated system.

CH-46 SIL: This lab currently has the capacity to absorb additional similar workyears

categorized in the same common support function with only minor facility modifications. The SIL could be used to simulate various types of similar helicopter platforms with minor modifications such as addition of a sensor, additional wiring, etc.

GPS Lab: Has some limited capacity to absorb additional workyears of effort if additional space can be made available either by construction or reorganization of existing spaces. Additional equipments (2 GPS simulators) would also be required.

SATELLITE SYSTEMS CSF

The SHF Satellite Communication Test Facility could be increased by 4000SF through the reassignment of other programs currently using the adjacent spaces at a cost of $0.5M.

The Navy UHF Satcom Test Facility could easily absorb 5 workyears, but any requirement above that would require the relocation of the secure facilities' wall at a cost of $0.4M.

C4I AIRBORNE CSF

JTIDS Network Design Lab: As this facility is dedicated to the JTIDS Network Design Function, it offers significant potential for expansion to accommodate additional similar workyears. Existing buildings within the Warminster site are also available for expansion, making access to additional lab space to support Joint operations a trivial effort (i.e. NRaD Warminster can provide additional capacity without need for MILCON).

It is anticipated that approximately 2000 sq ft of additional lab space would be required to absorb 20 additional workyears of effort required by the Joint Development Activity. This is well within existing building capacity expected to be available in the FY97 timeframe at the Warminster site.

OSP Integration Lab: Minor modifications to upgrade lab for Secret ADP applications.

The E-2C Airborne Tactical Data Systems (ATDS) Integration Laboratory has the capacity to absorb additional similar workyears with only minor facility modifications.

C4I AFLOAT CSF

The Ship Antenna Model Range and Simulation Facility could absorb 5 workyears

without modification; additional office and working spaces would be required at other nearby buildings.

The VLF/LF Integrated Test Facility could absorb an additional 3 to 5 workyears, and expansion capacity beyond this is limited.

The EHF Satellite Communications Terminal Test Facility could absorb another 4 workyears and additional space could be made available for $0.5M.

The Survivable Adaptable Fiber-Optic Embedded Network Development Site could absorb an additional 5 workyears through reassignment of nearby office spaces at a cost of $0.1M.

The Surveillance Systems' C4I Afloat offices and labs can absorb additional similar workyears by increasing office occupancy density and by converting storage space to office space.

Simulated Ships Motion Test Facility: The Simulated Ships Motion Test Facility is used on the average 16 hrs per day to conduct inertial navigation system testing. Little or no facility modification would be required to increase the facility workload capacity. Simultaneous testing of two inertial systems, vice a single system, can be conducted on the same motion simulator and the normal test day can be extended (e.g. 24 hrs per day).

The Navy Tactical Command System Afloat (NTCS-A) testbed and integration facility has the capacity to absorb additional similar workyears with only minor facility modifications.

The Combat Direction System (CDS) Development and Evaluation Site (CDES) has the capacity to absorb additional similar workyears categorized in the same common support function with only minor facility modifications.

C4I FIXED GROUND BASED CSF

Expansion of the Information Transfer Management Structure could be achieved by converting adjacent lab spaces at a minor cost of $0.1M for an additional 5 workyear capability.

The Communications Support System Simulation Facility could easily accommodate an additional 10 workyears.

The Surveillance Systems' C4I Fixed Ground Based offices and labs can absorb

additional similar workyears by increasing office occupancy density and by converting storage space to office space.

The SCI and other compartmented facilities consist of over 55,000 square feet of operating space in 26 separated facilities within the Center. An additional 1500 square foot space is presently proposed for becoming a SCIF, and at least 12 additional spaces (12,000 square feet) meet DIAM 50-3 requirements and could be accredited as SCIFs. The Center also oversees three (3) contractor SCIFs with 1181 square feet of space; four (4) other contractor SCIFs with 8093 square feet can rapidly be re-accredited. These additional SCIF spaces could be accredited with only minor or no additional facility modifications.

The High Performance Computing And Theater Level Planning Laboratory has the capacity to absorb additional similar workyears with minor facility modifications.

The Navy Command and Control System Ashore Integration Test Facility has the capacity to absorb additional similar workyears categorized in the same common support function with minor facility modifications.

The Navy Intelligence Development, Integration And Test Facility has the capacity to absorb additional similar workyears with minor facility modifications.

The Distributed Command/Control (DC2) Laboratory has the capacity to absorb additional similar workyears with minor facility modifications.

The Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) Laboratory has the capacity to absorb additional similar workyears categorized in the same common support function with minor facility modifications.

The Systems Integration Facility (SIF) has the capacity to absorb additional similar workyears categorized in the same common support function with minor facility modifications.

The Multi-Link Laboratory has the capacity to absorb additional similar workyears categorized in the same common support function with minor facility modifications.

The Indoor Robotics Development/Test Facility has additional buildings that could be used to absorb additional robotics work. The use of the robotics test facility can be time-shared to provide for additional requirements.

The Research Evaluation and Systems Analysis (RESA) Facility does not have the capacity to absorb additional similar workyears.

The Marine Air Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Laboratory does not have the capacity to absorb additional similar workyears.

The Distributed Simulation Internet (DSI) Advanced Simulation Laboratory (DASL)/Secure DSI Integration Simulation Laboratory (SISL) does not have the capacity to absorb additional similar workyears.

The Display Systems Development Laboratory has the capacity to absorb additional similar workyears categorized in the same common support function with minor facility modifications.

The Over the Horizon Targeting (OTH-T) Reconfigurable Land Based Test Site (RLBTS) does not have the capacity to absorb additional similar workyears.

The Command Center of the Future does not have the capacity to absorb additional similar workyears.

ENVIRONMENTAL QUALITY CSF

The Ocean Sciences Laboratory is a fully-equipped chemistry, biology and sensor instrumentation development facility with state-of-the-science capabilities for marine environmental quality and ocean science research applications. With the use of nearby buildings to provide office space, the facility could be shared to support significant additional workyears.

ADVANCED MATERIALS CSF

The Materials Research Laboratory personnel are fully utilized, but the 12 major instruments and workstations can not be fully utilized by the current laboratory personnel all at the same time (more equipment and stations than people). There is capacity to increase the productivity of the laboratory with only minor modifications.

ENVIRONMENTAL SCIENCES CSF

The Propagation Test Facility's current use and anticipated future use is running at about 75% capacity. In the previous two years, the facility ran at approximately 100% capacity.

The Surveillance Systems' Environmental Sciences offices and labs can absorb additional similar workyears by increasing office occupancy density and by converting

storage space to office space.

ELECTRONIC DEVICES CSF

The Microelectronics CAD Facility can absorb additional workyears with minor facility modifications. This is in accordance with the initial plan for CAD expansion.

The Long Wavelength Infrared (LWIR) Filter and Materials Evaluation Laboratory consists of multiple test apparatus which can be used in a coordinated fashion in support of multiple workyears. The ultimate limiter of the number of workyears supportable is the space required to place experimental hardware in and around the rather large spectrophotometers and the space required for personnel access to the equipment. Minor modifications could be made to acquire adjoining space in order to expand this facility.

The Surveillance Systems' Electronic Devices offices and labs can absorb additional similar workyears by increasing office occupancy density and by converting storage space to office space.

The following facilities require minor or no modification to support additional workyears. Not all of the facility equipment is operated at full capacity.

- **Radiometric Measurements Facility**
- **Optoelectronic Device Characterization Facility**
- **Infrared Focal Plane Array test Facility**
- **Electronic Packaging Facility**
- **Microelectronics Laboratory**
- **Electronic Materials Science Facility**

Inertial Navigation Facility (INFAC): The Inertial Component Test Laboratory (ICTL) at INFAC contains 12 test piers, isolated from local foot traffic, and the required electronics to support equipment on those piers. The test piers contain developmental test stations incorporating triple, dual and single axis rate and position tables, precision dividing heads, environmental stations and seismic monitors in the most seismically stable inertial sensor facility in the United States. Currently, 7 of the 12 piers are being utilized 8 hours/day, 5 days/week and 1 pier is devoted to long term testing, 24 hours/day, 7 days/week. The remaining 4 piers are available for expansion/growth. Currently, 6 workyears of labor is being expended in the laboratory.

3.5.1.2 If there is capacity to absorb additional workyears, how many additional workyears can

be supported? (BRAC Criteria III)

AIR VEHICLES FIXED AVIONICS CSF

RF/Microelectronics Lab: 1 to 3 workyears.

CFMS: The CFMS estimated work load is 30% for FY97 and can absorb 1.6 workyears.

HC/KC-130 SIL: The capacity to absorb additional workyears, beginning in FY96 through FY97 would be 1.4 workyears.

CH-46 SIL: The capacity to absorb additional workyears would be 1.4 workyears.

GPS Lab: 1 additional workyear.

SATELLITE SYSTEMS CSF

The SHF Satellite Communication Test Facility could absorb an additional 7 workyears.

The Navy UHF Satcom Test Facility could easily absorb 5 workyears.

C4I AIRBORNE CSF

JTIDS: 20 additional workyears.

The E-2C Airborne Tactical Data Systems (ATDS) Integration Laboratory could absorb 20 additional workyears.

C4I AFLOAT CSF

The Ship Antenna Model Range and Simulation Facility could absorb 5 workyears.

The VLF/LF Integrated Test Facility could absorb an additional 3 to 5 workyears.

The EHF Satellite Communications Terminal Test Facility could absorb another 4 workyears.

The Survivable Adaptable Fiber-Optic Embedded Network Development Site could absorb an additional 5 workyears.

Simulated Ships Motion Test Facility: Approximately 5-6 additional workyears could be supported by the test facility with little or no modification.

OSP: 30 additional workyears. Basic lab can support development of survey systems for non-DOD application, i.e., Dept of Commerce, Dept of Transportation.

The Surveillance Systems' C4I Afloat offices and labs could absorb approximately 30 additional workyears.

The Navy Tactical Command System Afloat (NTCS-A) testbed and integration facility could absorb 5 additional workyears assuming 8 hour/day lab utilization; 20 additional workyears assuming 24 hour/day lab utilization.

The Combat Direction System (CDS) Development and Evaluation Site (CDES) could absorb 200 additional assuming lab utilization of 24 hrs/day, seven days a week.

C4I FIXED GROUND BASED CSF

Expansion of the Information Transfer Management Structure could absorb an additional 5 workyears.

The Communications Support System Simulation Facility could easily accommodate an additional 10 workyears.

The Surveillance Systems' C4I Fixed Ground Based offices and labs could absorb approximately 40 additional workyears.

Secure Facilities, Vaults And Underground Bunkers: Although there is an obvious capacity to absorb additional workyears in these facilities, there exists no direct correlation between square footage and capacity for work-years. Utilization of available space is dependent upon the particular projects being supported; i.e., they may be equipment intensive or people intensive, or include stringent physical security requirements.

The Distributed Command/Control (DC2) Laboratory has the capacity to absorb 60 by time sharing of equipment and extension of the work shift.

The High Performance Computing And Theater Level Planning Laboratory could

absorb 3 workyears assuming 8 hrs/day utilization, 10 workyears assuming 24 hrs/day utilization.

The Navy Command and Control System Ashore Integration Test Facility could absorb 5 additional workyears assuming 8 hr/day utilization; 20 additional workyears assuming 24 hrs/day lab utilization.

The Navy Intelligence Development, Integration And Test Facility could absorb 5 workyears assuming 8 hr/day lab utilization, 20 workyears assuming 24 hr/day lab utilization.

The Ocean Surveillance Information System (OSIS) Evolutionary Development (OED) Laboratory could absorb 2 workyears assuming 8 hr/day lab utilization, 10 workyears assuming 24 hr/day utilization.

The Systems Integration Facility (SIF) could absorb 18 workyears.

The Indoor Robotics Development/Test Facility could absorb 8 workyears of additional robotics work.

The Multi-Link Laboratory could absorb 15 workyears.

The Display Systems Development Laboratory could absorb 3 workyears.

ENVIRONMENTAL QUALITY CSF

The Ocean Sciences Laboratory could absorb 30 workyears of additional work with the use of nearby buildings for the additional office space required.

ADVANCED MATERIALS CSF

The Materials Research Laboratory could absorb 5 workyears of additional work.

ENVIRONMENTAL SCIENCES CSF

The Propagation Test Facility can support an additional 3 workyears without significant modification to the facility.

The Surveillance Systems' Environmental Sciences offices and labs could absorb approximately 5 additional workyears.

ELECTRONIC DEVICES CSF

The following facilities supporting the electronic devices CSF could absorb an additional 36 workyears without significant modification. The breakdown by facility follows:

Additional workyears	Facility
8	Microelectronic CAD Facility
1	Long Wavelength Infrared (LWIR) Filter and Materials Evaluation Laboratory
3	Radiometric Measurements Facility
4	Optoelectronic Device Characterization Facility
2	Infrared Focal Plane Array test Facility
6	Electronic Packaging Facility
6	Microelectronics Laboratory
6	Electronic Materials Science Facility

The Surveillance Systems' Electronic Devices offices and labs could absorb approximately 4 additional workyears.

INFAC/ICTL has the capacity to absorb additional work, categorized in the common support group, with little or no facility modifications, by utilizing the 4 available piers and by extending the work week to 24 hours/day, 5-7 days/week. Assuming that additional workyears scale linearly with additional pier utilization, up to 26 additional workyears could be accommodated. Approximately 8 workyears could be absorbed at ICTL with little or no modification.

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)

None.

3.5.2 Land Use: Provide number of buildable acres for additional laboratory/administrative support construction at your installation. (BRAC Criteria II)

NCCOSC RDTE DIV has 78 buildable acres for additional laboratory/administrative support construction. Using a model sampling of our existing developed areas it was calculated that within the 78 acres of buildable area approximately 1.3 Million square feet of additional building could be developed. This includes provisions for parking, utilities, and other amenities found within our model.

NCCOSC RDT&E DIV, Warminster will have a footprint of 55 acres (of which 111,000 sq. feet is laboratory space) that could be available for 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)

San Diego Main Facilities	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KVA)	83,138*	none**	23,902	30,138
Natural Gas (CFH)	84,000 CFH	none**	12,000 CFH	39,960 CFH
Sewage (GPD)	1.2 Million	none**	156,000	202,000
Potable Water (GPD)	11 Million	none**	350,000	455,000
Steam (PSI & lbm/Hr)	none	none	none	none
Long Term Parking	none	none		
Short Term Parking	3,516	none	3,050	3,200

Warminster Detachment	On Base Capacity	Off base long term contract	Normal Steady State Load	Peak Demand
Electrical Supply (KVA)	10,000	N/A	1,200	4,500
Natural Gas (CFH)	15,000	N/A	10,000	15,000
Sewage (GPD)	20,000	N/A	15,000	20,000
Potable Water (GPD)	576,000	N/A	15,000	20,000
Steam (PSI & lbm/Hr)	15 and 10,000	N/A	8,000	10,000
Parking	620	N/A	400	620

*** The on base capacity is calculated for the Point Loma Naval Complex. The on base capacity is not broken out by PWC, but response to fluctuating requirements of each activity located within the Point Loma Naval Complex..**

**** NCCOSC RDTE DIV has no off base long term contracts directly with the suppliers. PWC San Diego provides these services to NCCOSC RDTE DIV.**

SECTION IV: APPENDICES

Note: Appendices A, B and C contain no data and are't included in this submission.

APPENDIX D: CSF RELATED DISCLOSURE AND PATENT TITLES

AIR VEHICLES

Patents Issued

Blown Wing VTOL Aircraft

C^4I SYSTEMS

Patents Issued

Detection And Classification For Multi-Beam Sonar Systems

Torpedo Transducer Configuration For Deep Submergence

Resonance Damage Process

Noise Cancellation Technique For Towed Transducer Array

Acoustic Locator For Elements Of A Flexible Sonar Array

Vibration Isolation Module For Towed Seismic Arrays

Active Search Technique For Subsurface Objects

Mobile Magnetometry Processing Scheme

Improved HF Fix-Tracking System

Onboard Acoustic Tracking System

Monopole Inductively Loaded Antenna Tuning System

Computer Hardware Executive

Large, Air Deployable, Volumetric Hydrophone Array

Constrained Bubble Transducer Low Cost Resonant Source

Test Message Injector For System Evaluation

Meteor Burst Communication System

Adjustable Frequency Diversity Acoustic Telemetry System

Visual Aid For VLF Msk Signals

High Definition Video-Rate Laser-Addressed Liquid-Crystal Light-Valve

Expendable Sound Source (XSS)

Grid Free, Modular, Large Screen Liquid Crystal Displays (LS-LCD)W/Color

Very Low Frequency (VLF) And Low Frequency (LF) Transmitting Antenna

Preprocessor And Adaptive Beamformer For Linear-Frequency Modulation

Acoustic Window (Low Cost)

Josephson Junction Gyroscope

Multi-Channel Acoustic Simulator

Bistatic System And Method For Ocean Bottom Mapping And Surveying

Doppler Velocity Profiler

Multiplatform Sonar System And Method For Underwater Surveillance

Patents Pending

Rotating Disk Three-Dimensional Display

A Constrained-Set Generalization Technique For Automated Message Correc.

Sensor To Cable Molding Process

Shipboard HF Whip Antenna Base Insulator De-Icer

Fiber Optic Cable Payout System

Submerged Sensing System Using Line Array Segments

A Parallelization Tool For Parallel Architecture Computer

Quality Indicator For FVLF On-The-Air Broadcast

Instantaneous Bit-Error-Rate Meter

Inter-Processor Data Communications System

Fault Tolerant Lcd Display With Gray-Scale Programmability

Self-Adapting Filter

Adaptive Processor Integrator

Demand Assigned Multiple Access (DAMA) Device Controller Interface

Navy Tactical Data System Interface Adapter

Adaptive Partitioning In An Iterated Transform Image Compression Algorithm

Rosette Top-Loaded Monopole Antenna

Dual Feed Dual Antenna For Mono-Directional Pattern

Underwater Cable Junction For Electro-Optical Mechanical Cables

Adjustable Top-Loaded Monopole Antenna

Variable Length Filter

Mini-Pang (Pseudo-Atmospheric Noise Generator)

Laser Based 3d Volumetric Display System

Conforming Tuning Coupler For Flextensional Transducers

Scene-Adaptive Light Attenuation

Adaptive Processor Integrator

Test System, Fiber Optic Multiplexer/Demulti Plexer

Broadband Adaptive Amplitude Filter

A Method For Adding Abstraction To Complex Software...

Laser Based 3d Volumetric Display System

Temporal Sensor Data Fusion Scheme For Intelligent Security Assessment

Adaptive Processor Integrator

Multi-Base Band Receiver

Weak Signal Revealer

Single-Sideband Modulator With Ultra-Low Spurious Levels

Pre-Beamformer Interference Canceller

Power Filter

Time Domain Beamformer Interference Canceller

3d Spacial Plan Position Indicator (SPPI) Display

Low VSWR 2-30 Mhz HF Twin Whip Antenna For Shipboard And Land-Based Use

A Super Wideband Omni-Directional Radiating Disk (SWORD) Antenna

Improved VLF/LF Communication System

Adaptive Parameter Kernel ALOD Processor

Split Rosette Top-Loaded Monopole Antenna

Multi-Mode Acoustic Source

Technique For Distributed Quantization Noise Transmission Zeros

Sigma-Delta Modulator With Tunable Signal Pass-Band

Wide Band Tem Phased Array Reflector Antenna

Submarine Announcement Silencing System (SASS)

Lightweight, Low Power, Slack-Line, Deployable Acoustic Surveillance Array System

Method Of Encoding A Digital Image Using Iterated Image Transformations To Form An Eventually Contractive Map

ELECTRONIC DEVICES

Patents Issued

Interferometric Optical Fiber Data Link

Color Sonar For Submarine Underice Collision Avoidance

Variable Printed Circuit EHF Filter

Direct Voltage Source Power Converter

Electrical Characterization Of Interface Between Thin Film Silicon

Ohmic Contacts For Semiconducting Diamond

Variable Length Word Compression Decoder

Magnetic Stabilization Of Spooled Fiber Optic Data Links

Method Of Making Integrated Circuit To Package Connections

Intensity Dependent Beam Deflector

Remote Fiber Optic Angular Orientation Sensor Using Four Channel In.Sum.

Resistive Element Using Depletion-Mode MOSFETS

High Speed Serial Optical Crossbar Switch

Main And Auxiliary Rectifier System For Minimizing Line Harmonics

Instantaneous DC UPS With Hysteresis

Optically Powered High Voltage Electron Gun

Insulator Assisted Self-Aligned Gate Junction Field Effect Transistor

Cmos Analog Four-Quadrant Multiplier

Flexducer Preamplifier Power Controller

Energy Storage Circuit For Short Term Power Interruption

Real-Time Optical Motion Detector

Hybrid Navigational Control System

Wide Bandwidth Differential Amplifier

Dual-Frequency Receiving Array Using Randomized Element Positions

A Bridge Type Optoelectronic Sample And Hold Circuit

Intelligent Data Fusion Scheme For Fixed And Mobile Security Sensors

Edge-Emitting Diode-To-Optical-Fiber Coupling Technique

Method For Measuring The Resistive Transition And Critical Current

Method For Producing Polarization Independent Narrow Channel Wavelength

Laser Texturing

Optically Powered Photomultiplier Tube

A Structure For Providing High Resolution Modulation Of Voltage

Compensation Circuitry For Analog Multiplier

Microelectronic Photomultiplier Device

Laser Energized High Voltage Direct Current Power Supply

An Apparatus And Method For Non-Contact Surface Voltage Probing

Method For Fabricating Complementary Enhancement & Depletion Mode Field

Conformal Waveguide For Optical And Electronic Integration

Laser Formation Of Graded Junction Devices

Multilayer Microelectronic Photomultiplier Device

Magnetic Amplifier Switch For Automatic Tuning Of VLF Transmitting Antenna

Integrated Circuit Transformer

Hybrid Pneumatic/ Hydraulic Actuator

Reconfigurable Video Line Digitizer

Intelligent Battery Charging System

Adaptive Filter For The Suppression Of Wideband Or Offset Narrowband Interference

Patents Pending

Method Of Rapid Sample Handling For Laser Processing

A Structure For Providing High Resolution Modulation Of Voltage

Oxide-Voltage-Limit Ing Circuit For Floating-Gate Devices

Method Of Fabricating A Microelectronic Photomultiplier Device

Method Of Laser Processing Ferroelectric Materials

Monolithic Low Voltage To High Voltage Converter

Optical Imager On Transparent Substrates

Fiber Optic Microcable Coating Module

Optimized Minority Carrier Lifetime By Wafer Bonding To SOS

Light-Powered Synthetic Muscle

Method Of Forming A High Voltage Silicon-On-Sapphire Photocell Array

Method Of Forming Thin Films

High Energy Density Linearly Variable Inductor

Microdynamic Devices Fabricated On Silicon-On-Insulator Substrates

Silicon To Sapphire Bond

Ultra-High Resolution Liquid Crystal Display On Silicon-On-Sapphire

Hybrid High Power Amplifier

Laser Textured Surface Absorber And Emitter

Method Of Locking Laser Wavelength To An Atomic Transition

An Ion-Implanted Diamond Metal-Insulator-Semiconductor Transistor

Ultra High Vacuum Chemical Vapor Deposition Of Epitaxial Silicon Sapphire

High Voltage Power Supplies For Microdynamic Structures

Diamond Multilayer Multichip Module Substrate

Fiber Optic Self-Multiplexing Amplified Ring Transducer

Electrically Addressable Silicon-On-Sapphire Light Valve

Diamond Electronic Package

Method For Manufacture Of Liquid Crystal Cavity Using Wafer Bonding

Ring Oscillator Thermometry

Complementary Vertical Bipolar Junction Transistors Fabricated

Variable Fiber Optic Time Delay Line

Method For Fabricating Vertical Bipolar Junction Transistors In Bonded...

Method For Fabricating An Operational Amplifier Using Bipolar Junction...

Bipolar Analog Memory In Double-Polysilicon Mos Canceller

Wavelength Shifting Optical Fibers

Submersible Magnetic Sensor And Indicator

Method For Manufacture Of Fiber Optic Filter

Electroluminescent Devices In Porous Silicon On Sapphire

Integration Of Semiconductor Circuits And Devices With Superconducting

Complementary Vertical Bipolar Junction Transistors Fabricated In Silicon

Integration Of Semiconductor Circuits And Devices With Superconducting

Photonic Silicon On A Transparent Substrate

Fiber Optic Microcable Produced With Fiber Reinforced Ultraviolet Light

Ultra-High Resolution Dielectrically Isolated Display On Silicon-On-Sapp

Pulsed Laser Diode System Using Electrical Resonant Driving

Triple Base Bipolar Phototransistor

Method Of Controlling Photoemission From Porous Silicon Using Ion Implant

Electrical Resonant Circuit For Driving Laser Diodes

An Automatic Repeater Station For Signal Transmissions

Multichannel, Multifunction Relay Radio Architecture

ENVIRONMENTAL SCIENCES

Patents Issued

Hybrid Ray Optics And Parabolic Equation Method For Radiowave Propagation

Patents Pending

Radio Wave Refractivity Profiles Deduced From Lidar Measurements

HUMAN SYSTEMS

Patents Issued

Task Specific Screening Test For Potential Air Traffic Control Candidate

Patents Pending

High Speed Paper Slicer

Non Invasive Arterial Plaque Build-Up Detector

ENVIRONMENTAL QUALITY

Patents Issued

Portable Flow Control And Diluter System For Bioassay Testing

Patents Pending

Organotin Biocide With Unsaturated Carbon Chains

Storm Water Runoff First Flush Sampler

Indicator Reagent Delivery System For Direct In Situ Spectroscopic Deter

Copolymers Containing Mixed Saturated/Unsaturated Organotin Compounds

Organotin Biocides Containing Mixed Saturated/Unsaturated Carbon Chains

Photon Controlled Decomposition Of Nonhydrolyzable Ambients

Chlorinated Hydrocarbon Sensor For Cone Penetrometer

Method For Quantitative Calibration Of In Situ Optical Chemical Measure

Reducing Polluted Air Device

A Fullerene Based Solid State Neutron Detector

Feedback-Controlled Oxygen Regulation System

Benthic Flux Sampling Device

Autonomous Hydrostatic Water Sampling System

Optical Solid-State Thermal Neutron Detector

Coincidence Detection Of Thermal Neutrons Through Correlation Of Optical

Detection Of Subsurface Fissionable Nuclear Contamination

The Differential Mode Band Limited Detector (DMBLD)

A Neural Network Based Method For Qualitative And Quantitative Identific

Non-Chloride, Seawater-Based Referenced Electrode

A Microwave Based Gamma Detector

ADVANCED MATERIALS

Patents Issued

Chromium Doped Laser Transmitter Of Extended Wavelength Capability

Thermistor Controlled Current Source Versatile Temperature Sensor

Patents Pending

Electrode And Method For Preparation Of Electrodes For Electrochemical...

Compact Substrate Heater For Use In An Oxidizing Atmosphere

Method Of Determining The Granular Nature Of Superconductors Using...

Superconducting Ceramic Magnet

Superconducting Transformer With Enhanced Excitation

Nonlinear Dynamic Signal Processor Suitable For Detecting Very Low...

Nonlinear Dynamic Signal Processor, Based On Enhancement Of Stochastic...

Id Ammonia Synthesis Of Doped Fullerenes

Liquid Ammonia Synthesis Of Doped Fullerenes

APPENDIX E: CSF RELATED LITERATURE TITLES

AIR VEHICLES

Control of Oscillations in Ducted Premixed Flames.

Recent Progress in the Implementation of Active Combustion Control.

Active Control of Complex Physical Systems: An Overview.

Active Control of Complex Physical Systems.

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Feedback Control of Karman Vortex Shedding.

Active Control of Oscillatory Lift Forces on a Circular Cylinder.

AIR VEHICLES FIXED AVIONICS

Strapdown Astro-Inertial Navigation Utilizing the Optical Wide-Angle Lens Startracker.

Long Duration Strapdown Astro Inertial Aid Navigation using Satellite Tracking.

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Test and Evaluation of Evaluation of Embedded GPS Systems.

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Integration of Full-Scale Development Aircraft GPS User Equipment (AN-ARN-151 with Doppler Radar Systems.

Assessment of Integration Options for GPS Equipped Weapons during Host Vehicle Captive Carriage.

Test and Evaluation of Embedded GPS Systems.

Attitude Error Estimation with an Offset GPS Antenna: Concept Validation Testing.

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Doppler Radar System Integration with GPS ARN-151.

AIR VEHICLE ROTARY AVIONICS

Mid Air Retrievers.

WEAPONS CRUISE MISSILES

Impact of GPS Technology Trends on Weapon System Effectiveness.

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C^4I SYSTEMS

Issues in Mobile Robotics: The Unmanned Ground Vehicle Program Teleoperated Vehicle (TOV).

La Realite Virtuelle.

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If "The Network is the Computer", Then ....

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HEJCP.

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Algorithms for Fast, Non-Local Grid Communications on Hypercube Machines.

Simulating Non-Local Systems on Hypercube Machines.

The Role of Conditional Event Algebra in the Modeling of C3 Systems.

On Modeling of If-Then Rules for Probabilistic Inference.

Three-Valued Logics and Conditional Event Algebras.

A Re-Examination of the Relationship between Fuzzy Set Theory and Probability Theory.

Fusion of Linguistic and Stochastic Information Utilizing a New O-1 Random Variable Approach.

Development and Application of Some New Procedures to the Modeling and Combining of Linguistic and Probabilistic Information for the C3 Systems.

DFS-91 Tutorial on Theoretical Foundations: Modeling and Fusing of Linguistic, Probabilistic, and/or Conditional and Unconditional Forms.

Characterizations of N-Ary Fuzzy Set Operations which Induce Homomorphic Random Set Operations.

Use of Literal Information in Multitarget Data Association.

Combination of Evidence in C3 System.

Some New Results Concerning Random Sets and Fuzzy Sets.

A Unified Approach to Modeling and Combining of Evidence Through Random Sets Theory.

A Rule-Based Diagnostic System Dependent Upon Uncertainty Measures.

Some Asymptotic Results for the Combination of Evidence Problem.

Development and Application of Some New Procedures to the Modeling and Combining of Linguistic and Probabilistic Information for C3 Systems.

On The Scoring Approach to Admissibility of Uncertainty Measures in Expert Systems.

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Fractal Image Compression Using Iterated Transforms.

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Use of Feedforward and Feedback in Oversampled Analog to Digital Conversions to Bypass Performance Constraints Related to Analog Circuit Components.

A Bridge Type Optoelectronic Sample And Hold Circuit.

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On the Performance of an Oversampled Analog to Digital Converter with Digital Requantizer in Feedback Path.

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C^4I SYSTEMS AFLOAT

Effective Software Reuse in An Embedded Realtime System.

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C^4I GROUND MOBILE

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Adaptive Whitening Filters for Small Target Detection.

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Transient Scattering Response of Several Airborne Targets.

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MANPOWER AND PERSONNEL

Tactical Action Officer Skill and Knowledge Assessment Tool (U). SECRET.

BRAC-95 CERTIFICATION

Certified Data: Naval Command, Control and Ocean Surveillance Center, RDT&E Division San Diego, CA - BRAC 95 Data Call Number Twelve

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

MAJOR CLAIMANT LEVEL

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

W.H. Cantrell
Signature

Commander
Title

20 May 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

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

J.B. Greene Jr
Signature

Acting
Title

27 May 1994
Date

Activity

BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Twelve - NCCOSC RDTE DIV SAN DIEGO CA

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

NEXT ECHELON LEVEL (if applicable)

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

Signature

Commander
Title

5/18/94
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

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

Signature

Commander
Title

Date

Space and Naval Warfare Systems Command
Activity

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

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

NAME (Please type or print)

Signature

Title

Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

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

Signature

COMMANDING OFFICER
Title

5/10/94
Date

NCCOSC RDTE DIV
Activity

DATA CALL #12 - JOINT CROSS-SERVICE GROUP LABORATORIES, NCCOSC RDTE DIV

DATA CALL 66
INSTALLATION RESOURCES

Activity Information:

Activity Name:	DBO Pt Loma
UIC:	43639
Host Activity Name (if response is for a tenant activity):	Naval Command & Control Ocean Surveillance Center San Diego
Host Activity UIC:	68940

DATA CALL 66
INSTALLATION RESOURCES

Table 1A - Base Operating Support Costs (Other Than DBOF Overhead)			
Activity Name: Defense Printing Service		UIC: ~~AH~~ 43639	
Category	FY 1996 BOS Costs ($000)		
	Non-Labor	Labor	Total
1. Real Property Maintenance Costs:			
1a. Maintenance and Repair			
1b. Minor Construction			
1c. Sub-total 1a. and 1b.			
2. Other Base Operating Support Costs:			
2a. Utilities			
2b. Transportation			
2c. Environmental			
2d. Facility Leases			
2e. Morale, Welfare & Recreation			
2f. Bachelor Quarters			
2g. Child Care Centers			
2h. Family Service Centers			
2i. Administration			
2j. Other (Specify)			
2k. Sub-total 2a. through 2j:			
3. Grand Total (sum of 1c. and 2k.):			

N/A (DPS is DBOF)

UIC 43634

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)
N/A	

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..

Table 1B - Base Operating Support Costs (DBOF Overhead)			
Activity Name: DBO Pt Loma		UIC: 43639	
Category	FY 1996 Net Cost From UC/FUND-4 ($000)		
	Non-Labor	Labor	Total
1. Real Property Maintenance Costs:			
1a. Real Property Maintenance (>$15K)			
1b. Real Property Maintenance (<$15K)	$1		$1
1c. Minor Construction (Expensed)			
1d. Minor Construction (Capital Budget)			
1c. Sub-total 1a. through 1d.	$1		$1
2. Other Base Operating Support Costs:			
2a. Command Office			
2b. ADP Support			
2c. Equipment Maintenance			
2d. Civilian Personnel Services			
2e. Accounting/Finance			
2f. Utilities	$44		$44
2g. Environmental Compliance			
2h. Police and Fire			
2i. Safety			
2j. Supply and Storage Operations			
2k. Major Range Test Facility Base Costs			
2l. Other (Specify)			
2m. Sub-total 2a. through 2l:	$44		$44
3. Depreciation			
4. Grand Total (sum of 1c., 2m., and 3.) :	$45		$45

DATA CALL 66
INSTALLATION RESOURCES

Table 2 - Services/Supplies Cost Data	
Activity Name: DBO Pt Loma	UIC: 43639
Cost Category	FY 1996 Projected Costs ($000)
Travel:	$3
Material and Supplies (including equipment):	$321
Industrial Fund Purchases (other DBOF purchases):	$0
Transportation:	$6
Other Purchases (Contract support, etc.):	$1,293
Total:	$1,623

DATA CALL 66
INSTALLATION RESOURCES

Table 3 - Contract Workyears	
Activity Name: Defense Printing Service	**UIC:** ~~AH~~ 43639
Contract Type	**FY 1996 Estimated Number of Workyears On-Base**
Construction:	
Facilities Support:	
Mission Support:	
Procurement:	
Other:*	
Total Workyears:	

N/A (DPS has tenants only; do not support installations)

UIC 43639

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)):

N/A

2) Estimated number of workyears which would be eliminated:

N/A

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):

N/A

UIC 43639

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.)
N/A	N/A

No. of Additional Contract Workyears Which Would Be Relocated	General Type of Work Performed on Contract (e.g., engineering support, technical services, etc.)
N/A	N/A

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

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) _____ Signature _____

Title _____ Date _____

Activity _____

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

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print) _____ Signature _____

Title _____ Date _____

Activity _____

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

MAJOR CLAIMANT LEVEL

R. M. MOORE, RADM, SC, USN
NAME (Please type or print)

R M Moore
Signature

COMMANDER
Title

AUG 24 1994
Date

NAVAL SUPPLY SYSTEMS COMMAND
Activity

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

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

W. A. EARNER
NAME (Please type or print)

W A Earner
Signature

Title

8/30/94
Date

BRAC-95 CERTIFICATION

EFFECTED LOCATION(S):

DPS-Wide

DATA CALL BEING CERTIFIED:

BRAC-95 Data Call #66

Per SECNAV NOTE 11000 dtd 8 Dec 93

"I certify that the information contained herein for the following location(s) is accurate and complete to the best of my knowledge and belief."

WILLIAM J. PORTER
NAME (Please type or print)

W J Porter
Signature

Acting Director
Title

8/15/94
Date

DPS Headquarters
Activity

Enclosure (1)

Entire section Revised

retaining high quality personnel at all levels and in all occupations. When recruiting, typically, there are multiple quality applicants available in the area or willing to relocate to San Diego, occasionally at their own expense. There are several major universities in the immediate area that are excellent sources of candidates for our entry level science and engineering positions. We attract candidates from across the country who prefer the climate and lifestyle that San Diego has to offer. We have never experienced a lack of quality candidates in the past and we expect that will continue in the future.

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UIC: N66001

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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.

<u>CY 90</u>

Acoustical Society of America Fellow

Dr. Whitlow Au

American Society of Mechanical Engineers Dedicated Service Award Medal

Dr. Jerry D. Stachiw

Society for Technical Communication Publication Awards

"STI Handbook: Guidelines for Producing Using, and Managing Scientific and Technical Information at NOSC," Award of Excellence

"Fifty Years of Research and Development on Point Loma," Award of Excellence

"A Short History of NOSC on Point Loma," Award of Excellence

Awards for Research or Technical Excellence

Dr. James Zeidler appointed adjunct professor in the Department of Electrical and Computer Engineering at the University of California, San Diego

Dr. Thomas Mautner selected as Senior Fellow at San Diego Supercomputer Center

Dr. George M. Dillard selected as General Chairman, Twenty-Fourth Annual Asilomar Conference on Signals, Systems, and Computers

International Marine Animal Trainer's Association (IMATA) Awards

D. Schinder, "Behavior of the Decade" award for "Relieving stress in husbandry through behavioral conditioning"

R. L. Brill, for service as Vice President

Honorary Life Membership Award - International Association for Aquatic Animal Medicine

Sam H. Ridgway

Society for Technical Communication

Margaret E. Cathcart for her successful development and management of the technical program for the 37th International Technical Communication Conference

CY 91

International Marine Animal Trainers Association (IMATA) "Behavior of the Decade" Award for dolphin-trained husbandry behaviors to improve medical treatment for the animals

Distinguished Alumnus Award, Texas A&M University, College of Veterinary Medicine

Sam H. Ridgway

Awards for Research or Technical Excellence

Dr. George M. Dillard selected as a member of the Steering Committee of the Asilomar Conference on Signals, Systems, and Computers

Society for Technical Communication

Margaret E. Cathcart elected as Associate Fellow in recognition of superior commitment and outstanding contributions to management of scientific and technical information and for dedicated service to the Society for Technical Communication

CY 92

American Defense Preparedness Association Bronze Medal

John Ehlers for scientific and engineering achievement in the field of antisubmarine warfare

Federal Laboratory Consortium Award for Technology Transfer

Dr. Graham A. Garcia and Dr. Isaac Lagnado for their technical and marketing efforts in developing and transitioning thin film silicon on sapphire technology to industry

Institute of Electrical and Electronic Engineers Achievement Award

Harry Gold for his work in the development and publication of an IEEE token ring standard for communications networks

Marine Technology Society Remotely Operated Vehicle Committee Decade of Achievement Award

Bob Wernli for organizing the first ROV conference and serving as conference chairman for 10 years

Marine Technology Society Remotely Operated Vehicle Committee Distinguished Service Award

Howard R. Talkington for his role in developing the first ROVs and subsequent contributions to this technology area

Pacific Congress on Marine Science and Technology International Service Award

Howard R. Talkington

San Diego Oceans Foundation Roger Revelle Perpetual Award

Peter Seligman for leadership of and contributions to Navy environmental programs

International Marine Animal Trainer's Association (IMATA) Awards

R. L. Brill for service of President
R. L. Brill for Outstanding Service
R. L. Brill for Outstanding Achievement as Chair of the Constitution/Bylaws Committee

Clinical Medicine Award - International Association for Aquatic Animal Medicine

Sam H. Ridgway

Awards for Research or Technical Excellence

Dr. Richard Freund appointed Guest Editor of special issue of Journal of Parallel and Distributed Computing

Dr. Irwin Goodman appointed Guest Editor of the special issue of the IEEE Transactions on Systems, Man, and Cybernetics

CY 93

Royal Institute of Navigation Gold Medal

Eric R. Swanson for contributions to the theory and practice of navigation, particularly as related to the Omega Navigation System

Acoustical Society of America Pioneers of Underwater Acoustics Medal

Dr. Homer Bucker for outstanding contribution to the science of underwater acoustics, specifically for his work in modeling sound propagation through matched-field processing and for his efforts in signal processing, computational acoustics, and experimental methods

AFCEA Hawaii Executive of the Month

Dr. Bernie Schneiderman

Distinguished Young AFCEAn

John Robusto for professional efforts in direct support of the fleet in application of space systems in the tactical environment and for leading advanced intelligence systems research

International Marine Animal Trainer's Association (IMATA) Award

R. L. Brill for the best presentation in education/conservation for "Reintroducing captive dolphins: responsible management or emotional placebo?"

Society for Technical Communication Publication Awards

STI Handbook -- A Handbook for Navy Scientists and Engineers, Award of Merit

Naval Command, Control and Ocean Surveillance Center, Certificate of Achievement

Optical Fibers for Long-Haul Transmission in Severe-Bending Applications, Award of Merit

Using the Burst Derivative Measure to Improve the Computational Efficiency of ISAR Compensation Algorithms, Certificate of Achievement

Battle Management Architecture Design Concepts, Certificate of Achievement

Visualization of Scattering Strength of Elastic Bodies in a Fluid, Certificate of Achievement

Awards for Research or Technical Excellence

Dr. Homer Bucker received the Pioneer of Underwater Acoustics Medal

Dr. James Rohr chosen to serve on the Technical Review Panel for the White House Technical Reinvestment Project

Dr. Po Tang selected to serve on the Composites Committee of the Material Division of the American Society of Mechanical Engineers.

Dr. Sabine Apitz selected as Navy liaison for the Marine Board of the National Research Council's Committee on Contaminated Marine Sediments
Dr. Alan Gordon selected to submit the Advanced Unmanned Search System (AUSS) as an entry in the 1994 DISCOVER Awards for Technical Innovation

Society for Technical Communication

Margaret E. Cathcart elected Fellow for exceptional performance as writer, editor, and manager of naval publications; for introducing the Navy's first state-of-the-art electronic publishing system; and for leadership in advancing the quality of STC's international conferences.

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

CY 90

Trident II (D-5) flag presented by Director, Navy Strategic Systems Programs, for "significant contributions" to Trident Submarine Program

Strategic Defense Initiative Office, Passive Sensors Division, Technical Excellence Award

J. D. Merriam

Navy Superior Civilian Service Award

George R. Dobson for service as NSAP Science Advisor to Commander, Naval Special Warfare Command, specifically in communications

Carl H. Grieve for service in intelligence projects

Navy Meritorious Civilian Service Award

James W. Aitkenhead for contributions and leadership in ASW and undersea surveillance programs

Arthur J. Antczak for overseeing the transition to the new CATS telephone system

Dr. M. Allan Beal for outstanding achievement in arctic research

Steve Brenneman for leadership as program manager for Tactical Flag Command Center/Flag Data Display System program

Robert D. Boyle for engineering design of the Center's scientific facilities

Margaret E. Cathcart for development and management of the Center's formal publications program

Roger K. Cernius for development of improved strategic and tactical submarine communications systems

Refugio Delgado III for contributions as senior systems engineer for the USS *Belknap* upgrade program

Louis E. Griffith for development of techniques for automatic signal detection and classification in the area of ASW

Dr. Thomas E. Jones for high temperature superconductivity research

Dr. Michael F. Morrison for his achievements in underwater acoutic propagation applications for surveillance technology

Dr. Glenn A. Osga for contributions in human factors research related to combat systems and for service as U.S. representative on a NATO armament information exchange group

Dr. Lynn A. Parnell for research in closed liquid metal combustion technology

Merle R. Paulson for communications research ranging from VLF radio waves to atmospheric optics

Rik Pierson for his leadership in the shift of the CINCPACFLT battle watch to an alternate command center

James V. Thorn for efforts in the areas of optics, mathematics, electronics, acoustics, and mechanics

Ron Thuleen for contributions to Navy surface ship ASW capabilities

Franklin E. White, Jr. for design of command and control intelligence systems and correlation architectures

Robert L. Williams for design and development of the High Data Rate Mode and other communications systems

Navy Award of Merit for Group Achievement

Battle Group Assessment Team

Navy Science Assistance Program - Technical Advisor of the Year

John Smaldino

IR/IED

Carol Dooley, Mark Berry, and Debra Gookin for outstanding achievement at the Third Annual Navy IR/IED Symposium

Navy Commendation Medal

CDR Ed McDaniel, USN, for coordinating and supervising intelligence and cryptologic support to Third Fleet during PACEX-89

CDR Charles Wolfe, USN, for service as Planning and Coordinating Officer for PACEX 89

LCDR Carleton Ayers, USN, for duty as Principal Liaison Officer for PACEX 89

LCDR Leigh M. Thaeler, USN

LT Mark E. Chisam, USN

LT Daniel Welke, USN, for duty as Communications Support Section Head for PACEX 89

RMCM Leroy L. Ballard, USN

HT1 Kirk D. Pyle, USN, and BM2 Richard L. Giffin, USN, for their night, open-ocean rescue in heavy seas of an F-14 crew after their plane crashed off San Clemente Island

Navy Achievement Medal

CDR Edmond Hagee, USN

HMCM (MDV) Dennis R. Elsasser, USN, for service as senior diving medical technician and administrative assistant for NOSC San Diego Diving Division

ETC Donna L. Means, USN
ET1 Jeffrey A. Hopkins, USN, for service as leading electronics technician in support of PACEX-89

IC1 Edward Mitchell, USN

OTA1 Peter Szlachetka, USN,for service as program manager of the Target Data Processor and the Universal Communications Processor for the Oceanographic System Support Detachment

RM2 Janice E. Gillespie, USN

RM2 Angela Lamour Walters, USN, or service as watch supervisor and satellite communications terminal operator for CNO Project 784

EN2 Jami A. Schoenfelder USN

ET2 George Garcia for service as satellite communications terminal and baseband equipment maintenance technician for CNO Project 784

EN3 Maritza Rodriguez, USN

CY 91

Federal Laboratory Consortium (FLC) Technology Transfer Award

Dr. Steve Cowen for efforts in transferring expendable fiber-optic microcable technology to industry

Federal Laboratory Consortium (FLC) Technology Transfer Awards of Merit

R. Paulus
H. Hitney
K. Anderson
C. Haltan
A. Barrios
W. Patterson
G. Lindem

Office of Naval Research Outstanding IR/IED Achievement Awards

Dr. Homer Bucker
Neil Kamikawa

Office of Naval Technology Certificates of Commendation

Slack-Line Array

Dr. Homer Bucker
Dean Hanna
Mike Morrison
Art Nakagawa
Jack Olson
Dick Shockley
Bruce Williams

United Networking Technology

Roger Casey
Caesar Castro
Reeve Peterson
Dr. Cliff Warner

Strategic Defense Initiative Office, Passive Sensors Division, Lifetime Achievement Award

D. L. Stierwalt

Navy Superior Civilian Service Award

Carl Grieve for intelligence and security services in support of special compartmented activities

Alan K. Hayashida for service as Arctic advisor, test director, senior scientist, and tactical development exercise coordinator in USS *Seahorse* (SSN-669) during ICEX 1-90

Dan Hightower for pioneering efforts in developing emerging technologies, including Small Water-Plane Area Twin-Hulled (SWATH) ship technology, undersea vehicles and their cables, telerobotics, fiber optics, acoustic and electromagnetic surveillance, and marine mammal research and systems applications

Jeanne Holzmann for service as Navy Science Assistance Program science advisor to Commander, Naval Surface Force, Pacific

Navy Meritorious Civilian Service Award

Jerome R. Beauchane for leadership as head of the Afloat Command Systems Information Branch and Deputy Project Manager for the Navy Tactical Command Systems-Afloat program

Donald J. DeFrain for planning and development of numerous military construction projects and other facilities requirements

Dr. Richard J. Jaffee for leadership of and technical contributions to the Navy Tactical Command Systems-Afloat program

Aram K. Kevorkian for technical leadership in development of supercomputing applications and extensive technical publication

James L. Lievens for 40 years of contributions to location, testing, and designation of shipboard antennas

Dr. Tom Mautner for leadership and technical contributions in the area of propeller design

Matthew N. McLandrich for significant contributions to the advancement of lightwave communications technology

Patrick W.B. Moore for contributions in the areas of animal psychophysics and neural network models of dolphin echolocation

Richard M. Poehling for his leadership in effective handling of a variety of administrative functions

Paul A. Singer for development and deployment of several systems increasing the Navy's capabilities in the area of submarine communications

Judith R. Theisen for technical contributions and leadership in development of computer programs for the Antisubmarine Warfare Control System Mark 116 Mods 5, 6, 8, and 9

Christopher M. Young for leadership and contributions to fiber-optic cable programs that provide more effective underwater communications

Dr. James R. Zeidler for efforts distinguishing him as an international expert in semiconducting diamond technology

Navy Awards of Merit for Group Achievement

Battle Force Inport Training

Project Manager Thomas R. Tiernan
Kevin E. Boner
Contradita Gonzalez
Douglas R. Hardy
John G. Kammerer
Rubin P. Kaufman

Electronic Combat Module

Project Leader Rey Yturralde
Robert Fish
Chris Haupt
Sia McGown
Rick Odermatt
Bill Ray
Tim Wadsworth

Navy Tactical Command Systems-Afloat

Program Manager Dr. Richard Jaffee
Todd A. Almond
Jerome R. Beauchane
Refugio Delgado III
CDR Wayne Duke

Don Eddington
Janet L. Fader
Mary L. Fox
Laura R. Hickman
DS2 David M. Nutting, USN
Charles J. Schwartz
Randal R. South
Herbert M. Stillings
LCDR Kenneth Wheeler, USN

Regional ASW Command Center

Team Leader Corky Stradling
Frank Adams
James Aitkenhead
Morris R. Akers, Jr.
Barry Ault
Domenick Calabro
Palmer Chase
Thomas Clark
Kenneth Faucher
Sid Green
Carl Grieve
Russell F. Holland
Edward Jahn
Patrick H. Johnson
Christine Lisman
David Lowenstein
Greg Mani
Dennis Mattison
CDR Ed McDaniel, USN
Tyrone McMurrey
James A. Michael
John Novotny
John Salzmann, Jr.
Harold Smith
Randy South
Gerald S. Sprouse
Charles Sturtevant
George Walt
Edward C. Wysocki

"50 Year" History Publication Team

Project Manager Margaret E. Cathcart
Joyce Andrews
Eleanor Boxberger
Lee Hood
Shari Stafford
Juni Thompson
Al Woerner

IR/IED

Dr. Homer Bucker and Neil Kamikawa for outstanding achievement at the Fourth Annual Navy IR/IED Symposium

Secretary of Defense Award for Excellence

Ray E. Glass

American Defense Preparedness Association Award

Robert L. Matthews
Robert L. Smith

Meritorious Service Medal

CDR William T. Sleichter

Navy Commendation Medal

CW03 Steven K. Dowd, USN

CDR Ed McDaniel, USN, for organizing, coordinating, and supervising a select group of intelligence and cryptologic specialists supporting Third Fleet forces in PACEX-89, the largest Pacific naval exercise since World War II

LCDR Judy A. Overhauser, USN

LT William R. Ray, USN

Army Commendation Medal

ET1 Kirk A. Guarian, USN

RM2 Linda L. Handley, USN

ET1 Lance V. Hayden, UCN

Navy Achievement Medal

HTCS (DV) Kenneth O. Cline, USN

ET2 George Garcia, USN, for service as satellite communications terminal and baseband equipment maintenance technician for CNO Project 784, EHF Satellite Communications Program

ET1 Jeffrey A. Hopkins, USN, for service as leading electronics technician supporting Commander-in-Chief, U.S. Pacific Fleet Alternate Command Center during relocation of CINCPACFLT Battle Watch to a remote location

DS2 David M. Nutting, USN

HM1 Edward P. Presnillo, USN

QMC Peter Riordan, USN

LT Norah H. Taylor-Brown, USN

RM2 Angela Lamour Waters, USN, for service as watch supervisor and satellite communication terminal operator for CNO Project 784

CY 92

Army Corps of Engineers, Special Act Award

Briar Visser for service in the Kuwait Emergency Recovery Office following the Persian Gulf War

Department of Defense, Civilian, Desert Shield/Desert Storm Medals

Todd Almond
Jerry Beauchane
Dr. Will Cronym
Regufio Delgado III
Tim Fitzgerald
Edwin C. Lewis
David Matsubara
Bill Ray

John Smaldino
Randy South
Robert A. Stephenson
Michael Wills
Ed Zeranski

Meritorious Service Medal

CDR Tom Utschig, USNR, for service aboard USS *Tarawa* (LHA-1) as flag watch officer for Commander, Amphibious Group Three, deployed to the Persian Gulf during Operation Desert Storm

Navy Achievement Medal

IC1 (SS) Daniel R. Christensen, USN, for service as Assistant Arctic Submarine Laboratory Logistics Coordinator at Ice Camp APLIS during ICEX 1-91

OM1 Daniel I. Grundfossen, USN, for service as Assistant Arctic Submarine Laboratory Logistics Coordinator at Ice Camp APLIS during ICEX 1-91

DS2 David M. Nutting, USN, for service as the Flag Data Display System Navy Tactical Command System-Afloat military technician

ET1 (SW) Donald Thornberry II, USN, for service as Assistant Arctic Submarine Laboratory Logistics Coordinator at Ice Camp APLIS during ICEX 1-91

Navy Award of Merit for Group Achievement

Fleet Mobile Operational Command Center

Jim Kadane, Project Manager
Jerry Beauchane
Refugio Delgado III
Bob Stephenson
Todd Almond
Steve Musson
Brad Carter
DS3 Rich Jack, USN
Jesus Lopez
Raymond Barrera
Frank Stitt
Lee Hansen
Russ Keefer
Rick Hollandsworth

Janet Fader
Laura Hickman

Air Defense Initiative

Jim Price, Program Manager
Jim Kadane, Systems Engineering and Integration Manager
Cliff Meland, Acceptance Test Director
Joe Culver, Team Leader
Angela D'Amico, Team Leader
John Ehlers, Team Leader
Stan Follis, Team Leader
Lt. Ken Garber, USN, Team Leader
Lou Griffith, Team Leader
Jay Martin, Team Leader
Scott Adams
Rodney Anderson
Ray Barrera
Mel Calderon
Teresa Church
David Clark
Khanh Dam
Don Davison
Gary Dorrance
John Douma
Jayson Durham
Dave Edelblute
Brian Gilbreath
Doug Grimmett
Charles Hansen
Lee Hansen
Mike Hoernemann
Mark Hogue
Mike Howard
Glen Hunsaker
Martin Jordan
Paul Kennedy
Fred Kramer
Charles March
Joe McCarthy
John McDonnell
Larry McKinley
Maggie Minor
Richard Myers

UIC N66001

Toni Nelson
Todd Pickering
Nick Ramos
John Skadberg
Ted Sledzinski
Willie Stevenson
Lynne Tablewski
Bill Taylor
Son Tran
Glenn Urie
Jesus Zuniga

Navy Commendation Medal

Lt. Kenneth, R. Garber, USN, for service as project manager for the aircraft integration of the Sonobuoy Thinned Random Array Program

Navy Meritorious Civilian Service Award

Dr. James W. Broyles for service as Navy Science Assistance Program human factors advisor to virtually every major Navy and Marine Corps operational command

Jack L. Davis for leadership as Program Manager of the Antisubmarine Rocket missile program

Refugio Delgado III for creative engineering in developing open architecture command and control systems for the Fleet

Timothy P. Fitzgerald for design, development, and installation of fiber optics capability for the Defense Dissemination System

Jeff Gossett for service as technical advisor to the Commanding of USS *Pargo* (SSN-650) during ICEX 1-91

Edward M. Holler for establishing and managing the Integrated Undersea Surveillance System Software Support Activity

Thomas W. Hughes for leadership of and technical contributions to the Department of Defense Unmanned Ground Vehicle Development Program

Douglas R. Jensen for his work in quantifying the effect of the atmosphere on optical and infrared propagation

Elizabeth A. Lachtman for her work as lead designer for antisubmarine warfare control systems, including exceptional front-end software engineering

Richard J. Morin for technical and leadership achievements in managing the Command and Control Processor Program

Patrick Moore for contributions and leadership in areas of animal psychophysics and neural network models of dolphin echolocation

James B. Rhode for building the competence and reputation of his branch and developing positive relationships with branch sponsors

Robert A. Stephenson for managing efforts to provide over-the-horizon targeting support to Navy long-range weapons

Earl R. Towson for contributions to the mission purification team during the consolidation period that led to the establishment of NCCOSC RDTE DIV SAN DIEGO CA

Edward J. Zeranski for design, development and installation of fiber optics capability for the Defense Dissemination System

Navy Science Assistance Program, Technical Advisor of the Year

Dr. James Broyles

Federal Laboratory Consortium (FLC) Award for Excellence for Technology Transfer

I. Lognado
G. Garcia

Act Award

Celia D. Metz for Unmanned Ground Vehicle Program

Navy Superior Civilian Service Award

Mike Reilley for superior leadership and outstanding technical expertise resulting in high quality and quantity software support to the Fleet

Office of Naval Technology, Best FY 91 Independent Exploratory Development Project

Dr. Roger Boss
Bill Jacobs

Navy Commendation Medal

CDR Carl A. Wales, USN, for service as Officer-in-Charge of Ice Camp APLIS (Applied Physics Laboratory Ice Station) during Ice Exercise (ICEX) 1-91

LT William R. Ray, USN, for service as Submarine Range Safety Officer at Ice Camp APLIS during ICEX 1-91

CY 93

Department of the Army

Group Special Act Award, U.S. Army Belvoir R&D Center for contributions to the Mobile Detection Assessment Response System (MDARS)

Gary Gilbreath
Tracy Heath-Pastore
Richard Laird
Richard Smurlo
Steve Timmer
Teresa Tran

Department of the Navy

Legion of Merit

Captain James D. Fontana, USN

Meritorious Service Medal

LCDR Ronald C. Bethmann, USN

Special Act Awards

Navy Information Technology Acquisition Center

Steve Brenneman for service as lead engineer and team leader on the Source Selection Evaluation Board for the Navy Tactical Advanced Computer acquisition project

Navy Public Works Center, San Diego

Gordon Chase for substantial fund savings in repair of a portal crane providing direct support to aircraft carriers at NAS North Island

NDARS Team

Robin T. Laird
Richard P. Smurlo
Tracy A. Heath-Pastore
Theresa T. Tran
Gary Gilbreath

Mobile Inshore Undersea Warfare System

Brain M. Oshima
Lloyd B. Yano

Navy Superior Civilian Service Award

Don Eddington for service as Navy Science Assistance Program (NSAP) Science and Technical Advisor to Commander in Chief, U.S. Pacific Command

Howard R. Talkington for leadership and significant personal contribution to ocean technology and exploration of the ocean environment

Earl Towson for strategic business and reorganization planning, and new business outlook analysis and forecasting

Dr. Sachio Yamamoto for service as Director of the Office of Naval Research Asian Office, during which he initiated new contacts with high-level Japanese R&D leaders

Navy Meritorious Civilian Service Award

Dr. Donald J. Albares for internationally recognized efforts in development of optical fiber and guided wave optical technogies

Jerome R. Beauchane for service as lead on-site systems engineer for the Navy Tactical Command System-Afloat, providing afloat and ashore command centers with state-of-the-art command and control capabilities

Dr. Roger D. Boss and Everett W. Jacobs for in-depth investigation into fractal image compression techniques

Ronald L. Broersma for key efforts on the NCCOSC Corporate Internet and Administrative System and his service as principal Navy representative on the Defense Research and Engineering Network Technical Advisory Panel

John Y. Chang for program management on the Marine Air Ground Task Force Tactical Warfare Simulation

Patrick J. Donahoe for test direction and systems engineering for the Surveillance Towed Array Sensor System and the Low Frequency Active Program

Donald L. Endicott for efforts as the Navy representative on the Department of Defense High Performance Computing in the DoD HPC implementation plan

Dean A. Hanna for technical leadership of the Undersea Surveillance Block Program, establishing new standards of quality for program management and for the block's technical products

Dr. Peder M. Hansen for technical leadership in submarine communications including testing of VLF antennas transitioning from the U.S. Navy to the Royal Australian Navy

Ronald M. Hidinger for technical development and leadership that enhanced Navy capabilities in antisubmarine warfare, computer technology and undersea acoustic surveillance

James Kadane for leadership in fielding the Fleet Mobile Operational Command Center, enhancing Navy C^4I capability and providing the Naval Component Commander C^4I ashore and connectivity to the Joint Commander

Dr. William H. Marsh for achievements as chief scientist for Surveillance Towed Array Sensor System and Low Frequency Active project for coordinating at-sea testing and data analysis

John A. Mayr for design, development, operation and management of the hybrid simulator, providing hardware-in-the-loop simulation essential to test and evaluation of torpedo guidance systems

Jack R. Olson for underwater sensor design, fabrication and deployment, particularly of experimental ocean environmental sensing and measurement devices for undersea surveillance

John A. Salzmann for leading development of ashore and afloat command and control capabilities and moving toward a single integrated software development environment for C2 systems

Richard T. Shearer for leadership as Technical/Executive Director during a difficult transition period including major reorganization, transfer of product lines into and out of the command, facilities closure, and personnel reductions

Cornell S. Stradling for management of the Navy Space Task, leading development of C^3I prototypes serving the Navy intelligence community in signal, electronic and acoustic data collection and analysis

Thomas R. Tiernan for initiation of projects covering core technologies for an Advanced Technology Demonstration, based on the transition of simulator networks to an open system of distributed interactive simulation

Gary Toth for service as Navy Science Assistance Program Automatic Data Processing Technical Advisor to Commander, Sixth Fleet

Dr. Clifford J. Warner for communications networking expertise, including service as block manager for Communications Support System program and efforts on Communication Systems Network Interoperability program

Reynaldo F. Yturralde for leading development of environmental and electronic warfare data bases to support Fleet C^4I systems, including contributions to a system employed by USS *Ranger* (CV-61) in Operation Desert Storm

Navy Award of Merit for Group Achievement

Automated Information System Accreditation Process Action Team
- Lee Churchyard, Chairperson
- Rick Avila
- Tom Clark
- Larry Core
- Michelle Ferro-Czech
- Marion Griffin
- Lynn Roenicke
- Nancy Vorce
- Shirley Walbert

Fleet Mobile Operational Command Center Team
- James Kadane, Project Manager
- Todd Almond
- Jerome Beauchane
- Brian Britt
- Refugio Delgado
- Janet Fader
- CDR Michael Ferguson, USN
- Robert Fish
- Patrick Garcia
- Laura Hickman
- DS3 Richard Jack, USN

Jesus Lopez
Ward Page
Charles Schwartz
Robert Stephenson
Kristine Ward

Surveillance Towed Array Sensor System/Low Frequency Active (SURTASS/LFA) Team

Dr. Robert S. Smith, Program Manager
Alfred Aburto
Scott Adams
Don Barach
Dr. Homer Bucker
Cecilia Burrus
Melquiades Calderon
LCDR Richard Chase, USN
Margaret Cobleigh
Margaret Cooper
Dana Cottrell
Joseph Culver
Jerome DeJaco
Andrew de Torres
Patrick Donahoe
Vickie Flood
Mary Ann Garbarini
David Gillette
Marilyn Green
James Gregg
David Keir
James Lockwood
Charles March
William Marsh
Steven McCarthy
Larry McKinley
Clifford Meland
Daniel Michon
Ulysses Miller
William Miller
Michael Morey
Donald Murdock
Charles Nichols
Barbara Peugh
Gunnar Ramstrum
Willard Rask

James Reese
Daniel Rountry
Frank Ryan
Phillip Schey
STS1 Robert Schlayer, USN
Rhett Shaw
CDR William Sleichter, USN
STG1 James Taylor, USN
Ray Tejidor
James Thomson
Gary Turton

Complete Revision

219

BRAC-95

DATA CALL NUMBER FOUR

Data for

Naval Command, Control and Ocean
Surveillance Center, RDT&E Division
San Diego, CA

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

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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 NCCOSC RDTE DIV (UIC N66001)

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	483,000	342,176	134,824	3,465	3,478	1,221
87	530,000	328,222	231,778	3,319	3,376	2,279
88	525,000	341,700	182,308	3,358	3,440	2,259
89	530,600	335,148	217,102	3,399	3,328	2,058
90	523,939	365,163	228,009	3,389	3,356	2,282
91	532,589	375,998	195,877	3,301	3,334	2,219
92	564,496	404,027	184,354	3,525	3,578	2,240
93	610,359	438,375	212,222	3,427	3,316	2,490
94	540,840			2,825		
95	500,393			2,542		
96	512,306			2,490		
97	517,460			2,416		

Notes:

1. UICs N63152 (FCDSSA, SD), and N65576 (NSSA) are included from FY92 through FY97. In FY92 FCDSSA and NSSA were RMS activities. In FY93 they were RMS for approximately one quarter of the fiscal year.
2. Actual workyears for FY92 and FY93 were estimated for FCDSSA and NSSA.
3. Actual funds received for FY93 were estimated for NSSA for the portion funded under RMS.
4. Total funds budgeted include direct cite and reimbursable.
5. Workyears include civilian regular, civilian overtime and military workyears.
6. Budgets have not been prepared for FY96 and FY97. Total funds budgeted are based on current estimates.

Table 1.2 Historical and Projected Workload for Detachments of NCCOSC RDTE DIV (UIC N66001)

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

Both detachments received data call directly and reported this information separately.

TABLE 1.3 FY 1993 BREAKOUT OF FUNDS BUDGETED for NCCOSC RDTE DIV (UIC N66001) $K

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
SPAWAR	273.0	1242.0	17767.2	6595.8	29977.2	4921.7	35490.2	6150.1	35375.7	500.0	45142.4	120.0	5,711.6	111.4	5429.8
NAVSEA			4297.0	9531.0	4686.1	239.6	202.3	5694.1	8910.0		22714.0	1994.1	6013.2	256.9	1045.7
NAVAIR			5538.6	5483.9	4233.0	1049.1	1672.4	2180.5	1417.2	97.1	697.5	0.0	274.9		223.5
NAVFAC				1759.7			570.0		886.0		330.0			195.0	
OCNR	5511.2	49972.6	1398.1	432.1		2899.1	6109.6	4924.8							
SSPO				0.0				1050.0	345.7			7260.9			698.4
CINCPAC									4485.6		200.0				
CINCLANT									60.0						
MARINE CORPS		2712.4	697.6		527.8		2261.7	748.8						2494.8	60.0
OTHER NAVY	15.9	9177.3	3832.2	22641.9	3973.1	338.7	7698.5	630.6	39298.6	2256.0	20278.8	15733.7	1075.7	1212.7	4079.1
AIR FORCE								1402.6							5215.9
ARMY								4291.0							1554.7
ARPA								57579.2							
OTHER DOD								9205.5							2626.4
OTHER GOVT															3256.0
NON-FEDERAL															1133.2

TABLE 1.3 FY 1994 BREAKOUT OF FUNDS BUDGETED for NCCOSC RDTE DIV (UIC N66001) $K

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
SPAWAR		150.0	14868.0	11061.0	23476.0	2565.0	36480.0	4052.0	39059.0	730.0	42896.3		8203.0		1411.4
NAVSEA			3976.0	7990.1	17283.2	750.0	1095.0	2470.0	12383.3		21255.3	778.0	7547.0		199.0
NAVAIR			3225.0	0.0	5470.0	250.0	2358.8	736.4	4578.5	999.8	5330.0	123.0	169.6		747.7
NAVFAC				870.0					4200.0		330.0			195.0	
OCNR	4173.2	50022.5	3333.0		50.0	875.0	8977.0	11981.0							
SSPO									0.0			3260.0			0.0
CINCPAC									3164.0		1250.0				
CINCLANT									200.0						
MARINE CORPS		1555.0	1046.0	110.0	557.0		2220.0							661.7	
OTHER NAVY	314.0	2058.0	1364.0	13226.0	526.0	176.7	2140.0	29.0	12602.5	1545.0	17167.2	4302.0	260.0	390.0	3301.5
AIR FORCE								5890.0							3199.7
ARMY								4824.0							567.0
ARPA								71029.5							
OTHER DOD								4552.0							3363.9
OTHER GOVT															3885.0
NON-FEDERAL															429.2

TABLE 1.3 FY 1995 BREAKOUT OF FUNDS BUDGETED for NCCOSC RDTE DIV (UIC N66001) $K

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
SPAWAR		500.0	6355.0	13910.0	23082.0	3435.0	32965.0	3820.0	39611.0	351.1	32008.1		3730.0		1298.0
NAVSEA		500.0	2752.2	9529.9	19218.5	770.0	1050.0	3200.0	13245.3		10889.1	1200.0	5715.6		200.1
NAVAIR			2950.0	510.0	7830.0	300.0	1769.2	488.5	4771.7	1432.2	704.0	352.0	50.9		496.4
NAVFAC				800.0			570.0		4270.0						
OCNR	4272.0	49179.0	4473.0			830.0	4175.0	12980.0							
SSPO									0.0			3225.0			0.0
CINCPAC									2850.0		1500.0				
CINCLANT															
MARINE CORPS		1445.0	750.0		150.0		2250.0							1398.0	
OTHER NAVY	300.0	1893.0	3380.0	11398.0	785.0	150.0	2000.0	0.0	12233.3	1846.8	13401.0	1010.0	195.0		2877.3
AIR FORCE								3384.0							2975.0
ARMY								8242.0							1000.0
ARPA								72686.8							
OTHER DOD								4667.0							4700.0
OTHER GOVT															4135.0
NON-FEDERAL															1026.0

TABLE 1.3 FY 1996 BREAKOUT OF FU BUDGETED for NCCOSC RDTE DIV (UIC N66001) $K

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
SPAWAR		800.0	6508.0	14345.0	20791.0	3255.0	35208.0	2575.0	40604.0	365.7	32580.0		1670.0		1298.0
NAVSEA		500.0	2908.0	11257.9	28095.5	810.0	600.0	3200.0	12922.2		11073.0	1000.0	5816.6		200.1
NAVAIR			200.0	6150.0	4850.0	300.0	1849.0	299.0	4475.4	1455.6	3779.0	163.0	47.5		515.2
NAVFAC				2500.0					4069.0						
NAVSUP															
OCNR	3387.0	50421.0	4927.0			830.0	4375.0	11005.0							
SSPO									0.0			2825.0			4.0
CINCPAC									3000.0		1500.0				
CINCLANT															
MARINE CORPS		1445.0	750.0		150.0		1450.0							1398.0	
OTHER NAVY	130.0	1843.0	3180.0	12669.0	869.3		1200.0	0.0	11505.6	2045.0	12369.0	710.0	165.0		3365.8
AIR FORCE								3306.0							3050.0
ARMY								7795.0							975.0
ARPA								74234.0							
OTHER DOD								6931.0							4500.0
OTHER GOVT															4310.0
NON-FEDERAL															650.2

TABLE 1.3 FY 1997 BREAKOUT OF FU. .S BUDGETED for NCCOSC RDTE DIV (UIC N66001) $K

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
SPAWAR		400.0	6663.0	16661.0	19079.0	2805.0	37188.0	2467.0	40771.0	380.3	29323.1		1670.0		1298.0
NAVSEA		500.0	3312.6	12737.3	32197.9	810.0	550.0		12792.3		10842.0	1000.0	5589.9		200.1
NAVAIR			200.0	8050.0	4160.0	300.0	1955.0	312.3	4270.0	1480.3	12879.0	59.0	47.3		542.9
NAVFAC				3000.0					4100.0						
OCNR	3037.0	48919.0	6532.0			830.0	4200.0	10535.0							
SSPO									0.0			2725.0			0.0
CINCPAC									3300.0		1500.0				
CINCLANT															
MARINE CORPS		1445.0	1000.0		1100.0		1500.0							1398.0	
OTHER NAVY		1943.0	2030.0	11093.0	1038.3		1200.0	0.0	10942.0	1945.0	11259.0	725.0	165.0		3603.8
AIR FORCE								2942.0							3170.0
ARMY								7247.0							1000.0
ARPA								73079.0							
OTHER DOD								5279.0							4670.0
OTHER GOVT															4815.0
NON-FEDERAL															699.2

TABLE 1.4 FY 1993-1997 BREAKOUT OF FUNDS BUDGETED for DETACHMENTS of NCCOSC RDTE DIV (UIC N66001) $K

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

Not Applicable. Both detachments did receive this Data Call directly.

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

For your Site:

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

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

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

Table 2.1 Main Site Class 2 Assets of NCCOSC RDTE DIV (UIC N66001)

Building type	NAVFAC (P-80) category code	Gross Floor/Building Area (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100	17	5	0	22
Maintenance & Production	200	65	22	7	94
Science labs	310	335	141	76	552
Aircraft labs	311	0	0	0	0
Missile and Space labs	312	0	0	0	0
Ship and Marine labs	313	0	0	0	0
Ground Transportation labs	314	0	0	0	0
Weapon and Weapon Systems labs	315	0	0	0	0
Ammunition, Explosives, & Toxics labs	316	0	0	0	0
Electrical Equip. labs	317	648	55	37	740
Propulsion labs	318	0	0	0	0
Miscellaneous labs	319	29	7	3	39
39Underwater Equip. labs	320	56	0	2	58
Technical Services labs	321	6	2	0	8
Supply Facilities	400	23	0	0	23
Hospital & other Medical	500	0	0	0	0
Administrative Facilities	600	225	49	3	277
Housing & Community	700	30	17	1	48
Utilities & Grounds	800	0	0	0	0
Other					
Totals		1,434	298	129	1,861

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?

INADEQUATE FACILITIES SUMMARY (per 1-7 above)

Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
200	Physical cond., seismic, fire safety, security	Storage	$237K	CCN 300 $400 - $542K	None	No
300	Physical cond., seismic, fire safety, security	R&D Labs	$3,995K	CCN 300 $600 - $9,491K	None	No
600	Physical cond., seismic, fire safety, security	Office	$75K	None	None	No
700	Physical cond., seismic, fire safety, security	Sentry/Gate	$25K	None	None	No

Table 2.2 Main Site Class 2 Space of NCCOSC RDTE DIV (UIC N66001) Assigned to Tenants

TENANT		NAVFAC (P-80) Category Code	GF/BA Assigned (KSF)
Name	UIC		
Naval Base San Diego (Fire Dept)	N00242	730	6
Port Hueneme Division Naval Surface Warfare Center	N63394	317	43
Naval Military Personnel Command Support Activity Det	N41341	312	6
Defense Printing Service Branch Office, Pt Loma	N43639	229	7
Naval Surface Warfare Center Dahlgren Division Det White Oak	N60921	610	1
Naval Health Research Center	N63116	310	31
Naval Public Works Center	N63387	219	77
Naval Personnel Research and Development Center	N68221	310	86
Personnel Support Activity Det Pt Loma	N68554	610	5.5
Naval Undersea Warfare Center Keyport Detachment Arctic Submarine Lab	N68951	310	45
Defense Technical Information Center (DTIC)	DOOOUA	610	5
Defense Finance And Accounting Service DAO-CL San Diego, Pt Loma Detachment	HQO112	610	9
Scheduled Airline Traffic Office	SATO	610	.5
La Petite Academy, Inc	LPA	740	5
Data Disposal, Inc	DDI	0	0
Point Loma Federal Credit Union	PLFCU	740	2
Evergreen Concessions Co	ECC	0	0
Marine Physical Laboratory	MPL	317	10
		Total:	339

Table 2.3 Class 2 Space Utilized/Leased by NCCOSC RDTE DIV (UIC N66001)

Building type	NAVFAC (P-80) category code	GF/BA (KSF)			
		Adequate	Sub-standard	In-adequate	Total
Operational & Training	100				
Maintenance & Production	200				
Science labs	310	19			19[1]
Aircraft labs	311				
Missile and Space labs	312				
Ship and Marine labs	313				
Ground Transportation labs	314				
Weapon and Weapon Systems labs	315				
Ammunition, Explosives, and Toxics labs	316				
Electrical Equip. labs	317	87			87[2]
Propulsion labs	318				
Miscellaneous labs	319				
Underwater Equip. labs	320				
Technical Services labs	321				
Supply Facilities	400				
Hospital & other Medical	500				
Administrative Facilities	600				
Housing & Community	700				
Utilities & Grounds	800				
Other					
	Totals	106			106

Notes:

Plant Account Holders:

1. Naval Supply Center San Diego (UIC N00244)
2. Fleet Training Center, Pacific (UIC N61665)

For your Detachment sites not receiving this Data Call directly:

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

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

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

Table 2.4 Class 2 Assets of NCCOSC RDTE DIV (UIC N66001)

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

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

Table 2.5 Class 2 Space at Detachment Sites of NCCOSC RDTE DIV (UIC N66001) Assigned to Tenants

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

Table 2.6 Class 2 Space Utilized/Leased by Detachments of NCCOSC RDTE DIV SAN DIEGO CA (UIC N66001)

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

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

a. What is the maximum quantity of space that could be made available for expansion to accommodate other functions and/or increased efforts? Report in terms of the "Current NFA" as shown in Tables 3.1 & 3.2. **405,281** SQFT. *(See note below.)

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. **391,895** SQFT. *(See note below.)

The buildings listed in Table 3.1 without an accompanying estimated rehab cost of $40K or $38K are the ones that comprise this total.

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.

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* Space identified in NCCOSC RDTE DIV downsizing and demolition plans for FY94-FY97. As personnel and business base are reduced during FY94-FY97, NCCOSC RDTE DIV will conduct a program of building consolidation and demolition, thus reducing overhead costs.

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

Table 3.1 Constrained Class 2 Space Available for Expansion at NCCOSC RDTE DIV (UIC N66001)

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		
B19*/300	3.3		9		
B29T*/600	.8		2		
BA29*/300	15.2		40		
B184T*/600	3.6		9		
B307*/300	1.9		5		
B310*/300	1.3		3		
B350*/200	2.0		5		$40.0
B355*/300	2.1		6		
B356*/300	1.9		5		
B357*/300	2.2		6		
BA7*/300	3.1		8		
B77*/300	1.2		3		
B80*/300	3.8		10		
B106*/300	27.0		71		
B127*/100	1.7		5		
B137*/300	1.7		5		
B146*/300	4.1		11		
B148*/300	4.1		11		
B175*/300	2.2		6		
B353*/300	1.9		5		
B362*/300	2.0		5		
B371*/300	23.8		63		
B434*/300	8.1		21		

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		
B112*/100	3.0		8		
B120*/300	9.1		24		
B173*/300	7.7		20		
B305*/600	3.8		10		
B323*/300	3.8		10		
B428*/300	3.5		9		
BA1*/300	4.5		12		
B78*/600	.9		2		
B79*/600	.9		2		
B149*/100	2.2		6		
B165*/300	6.5		17		
B313/200	2.0		5		$ 40.0
B351*/200	1.9		5		38.0
B358*/200	1.9		5		38.0
B359/200	1.9		5		38.0
B360*/200	1.9		5		38.0
B361*/200	1.9		5		38.0
B1/300	65.0		171		
B600/300	35.0		92		
B605/300	20.0		53		
B609/300	10.0		26		
B9/300	9.0	18000	71	36'	920.0
B40/300	25.0		66		
B606/300	15.0		39		
B620/300	6.2		16		

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		
B302/600	3.8		10		
B68/300	6.5		17		
BA33/600	30.0		79		
B304/300	3.8		10		
Totals	405.3	18000	1,114		$1,190.0

* Space identified in NCCOSC RDTE DIV downsizing and demolition plans for FY94-FY97. As personnel and business base are reduced during FY94-FY97, NCCOSC RDTE DIV will conduct a program of building consolidation and demolition.

Table 3.2 Unconstrained Class 2 Space Available for Expansion at NCCOSC RDTE DIV (UIC N66001)

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		
A)P096 - 300	0	41.0	82	na	$17,900
B)P105 - 300	0	55.0	110	na	$17,300
C)P113 - 200	0	32.0	64	na	$ 5,000
Totals	0	128	256		$40,200

Notes:

A. NCCOSC RDTE DIV SAN DIEGO CA, UIC N66001
B. NCCOSC RDTE DIV SAN DIEGO CA, UIC N66001
C. PWC SAN DIEGO CA, UIC N63387

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?

There are three basic barriers to development of areas of land under NCCOSC RDTE DIV jurisdiction other than the areas and plateaus that have already been developed. The three characteristics are:

(1) The new Ecological Reserve Area that is soon to have official status. The Ecological Reserve Area is property on Point Loma that contains critical habitat to threatened species, and which the Navy has mutually agreed to designate as off-limits to future development. It is the result of a Letter of Intent signed by the five Commanding Officers on Point Loma and the five non-Navy landowners. The Reserve will occupy about 640 acres on Point Loma, 290 of which occur on NCCOSC RDTE DIV property (NCCOSC RDTE DIV has 508 acres under its jurisdiction on Point Loma).

(2) Some areas on Point Loma are unbuildable because of slopes that exceed 20%.

(3) Because of NCCOSC RDTE DIV's mission in Command, Control and Communication and because those functions are concentrated in the Seaside areas, most of the area of Seaside is restricted as an Electromagnetic Free area. That means that in most areas transmitting of signals is restricted, and in many areas building structures are not permitted because of signal reflection. Although it appears that there is a substantial potential for future development along the west slope area, that isn't really true. Any proposals for future development or construction will require extensive analysis to ensure the continued integrity of the electromagnetic environment.

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

NCCOSC RDTE DIV is well suited for research and development radio frequency work due to the following factors:
- High ground above sea level.
- Long distance line of sight (LOS), and over-the-horizon (OTH) communication link.
- Short and long distance LOS and OTH communication links with ships at sea.
- Excellent access to satellites provides a communication link between Pt. Loma and LANT, PAC and Worldwide ships and aircraft.
- Location also provides an excellent communication link between all other activities in the area.
- Areas in the west slope area are unique. Because of the land mass, all signals emitted for North Island Naval Air Station, Lindbergh Field, television stations, and radio stations are blocked. This gives NCCOSC RDTE DIV a clean environment to communicate with ships at sea and aircraft simultaneously.
- The only constraint worthy of note is that the frequency assignments/allocation are controlled by outside government activities.

TABLE 4.1 Class 1 Resources of NCCOSC RDTE DIV (UIC N66001)
Site Location: Point Loma, San Diego, CA

Land Use	Total Acres	Developed Acreage	Available for Development	
			Restricted	Unrestricted
Maintenance				
Operational				
Training				
R & D	508	108	322	78
Supply & Storage				
Admin				
Housing				
Recreational				
Navy Forestry Program				
Navy Agricultural Outlease Program				
Hunting/Fishing Programs				
Other				
Total:	508	108	322	78

d. Of the total Unrestricted Acres reported above, how much of it has existing roads and/or utilities that could support expansion efforts? **78** Acres.

The unrestricted 78 acres available for development and/or utilities that has existing roads could support expansion efforts.

e. OTHER. Included in the restricted acres are the following: the Point Loma Complex Ecological Reserve Area, approximately 290 acres; ESQD areas and slopes that require additional site preparation for development; and 16 acres that are anticipated to transfer to Department of Interior.

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 (KVA)	83,138*	None**	23,902	30,138
Natural Gas (CFH)	84,000 CFH	None**	12,000 CFH	39,960 CFH
Sewage (GPD)	1.2 Million	None**	156,000	202,000
Potable Water (GPD)	11 Million	None**	350,000	455,000
Steam (PSI & lbm/Hr)	None	None	None	None
Long Term Parking	None	None		
Short Term Parking	3,516 spaces	None	3,050 spaces	3,200 spaces

*The on-base capacity is calculated for the Point Loma Naval Complex. The on-base capacity is not broken out by PWC, but responds to fluctuating requirements of each activity located within the Point Loma Naval Complex.
**NCCOSC RDTE DIV has no off-base long term contracts directly with the suppliers. PWC San Diego provides these services to NCCOSC RTE DIV.

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

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

M1/R1 and M2/R2 expenditures.

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

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

Table 5.2 Maintenance, Repair & Equipment Expenditure Data for NCCOSC RDTE DIV (UIC: N66001)

Fiscal Year	MRP ($M)	CPV ($M)	ACE ($M)
1985	5.6	177	170
1986	5.9	188	191
1987	5.7	189	216
1988	6.7	204	316
1989	5.8	209	343
1990	6.5	214	386
1991	7.4	226	346
1992	8.6	236	360
1993	7.5	248	375
1994	4.9	256	390
1995	5.0	264	406
1996	5.0	272	422
1997	5.4	280	439

c. Training Facilities:

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

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

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

Note: NCCOSC RDTE DIV is engaged in joint training efforts with NCCOSC and does have a state-of-the-art, on-site training facility; however, it is not a formal school with a programmed course of instruction approved by an authorized authority.

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

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

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

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

Note: NCCOSC RDTE DIV is engaged in joint training efforts with NCCOSC and does have a state-of-the-art, on-site training facility; however, it is not a formal school with a programmed course of instruction approved by an authorized authority.

[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. See TAB A.

7. Operational Airfield Capacity. If your activity owns and operates an operational airfield fill out the data sheets provided at TAB B. None.

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

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

TAB A

SHIP BERTHING CAPACITY

Note: Question numbers in [ ]'s are for internal BSAT purposes.

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.
Pier 160 Main 28yrs	151	446'	24'	Outside	32'	Y		0
Pier 160 A Finger 28yrs	151	446'	24'	150'	32'	Y		0
Pier 160 B Finger 28yrs	151	418'	24'	150'	32'	Y		0
Pier 160 C Finger 28yrs *	151	191'	18'	97'	12'	Y		0
Pier 159 41 yrs	155	364'	11'-15'		12'-6"	Y		0
Pier 169 31 yrs	155	65'-6"	11'-15'		5'-8"	Y		0
Pier 302 57 yrs	155	360'	12'		25'	Y		0
F-122 1 yr	151	370'			8'	Y		0

* MILCON P122S FY93 BRAC II, MARINE SCIENCE PIER for PIER 160, FINGER "C", $363K.

Notes:

[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.

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[4]Water distance between adjacent finger piers.
[5]Indicate if RO/RO and/or Aircraft access.
[6]Describe the additional controls for the pier. A security zone exists around the pier into San Diego Bay.
[7]Net explosive weight. List all ESQD waivers that are in effect with expiration date.

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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]
Pier 160 Main		1-333 KVA 480V 2-83 KVA 480V 2-25 KVA 240V 4-120V Outlets	55-65 lbs 45 gal. per min.	Yes		None	None	Two TRB Floats & Camels
Pier 160 A Finger		3-330 KVA 480V 4-83 KVA 480V 2-22 KVA 208V 8-120V Outlets	"	Yes		None	None	One Sib Separator & Camels
Pier 160 B Finger		4-83 KVA 480V 1-25 KVA 240V 2-22 KVA 208V 7-120V Outlets	"	Yes		None	None	Camels
Pier 160 C Finger		120 Volt Outlets 10 each	"	Yes		None	None	Camels
Pier 159		120 Volt Outlets	"	Yes		None	None	None
Pier 169		120 Volt Outlets	None	Yes		None	None	None

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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]
Pier 302		208 Volt 120 Volt Outlets 10 each	None	Yes		None	None	None
F-122		120 Volt Outlets	None	None		None	None	None

[1]List only permanently installed facilities.
[2]indicate if the steam is certified steam.
[3]Describe any permanent fendering arrangement limits on ship berthing.

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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]
Pier 160	One, IX Class (135 ft) Two, TRB Class	Two, IX Class	zero	zero
Pier 160 Finger A	One, IX Class, Two, research vessels (90 & 135 ft), One research submarine (AGSS Class)	Two, IX Class Two, AGSS Class	zero	zero
Pier 160 Finger B	One, research vessel (135 ft)	One, small craft	zero	zero
Pier 160 Finger C	None	None	zero	zero
Pier 159 (Floating Pier)	Two, Boston Whaler boats	None	zero	zero
Pier 169 (Floating Pier)	None	Four, small boats only	zero	zero
Pier 122 (Floating Pier)	None	Two, small boats only	zero	zero
Pier 302	None	Two, small boats only	zero	zero

* NCCOSC RDTE DIV is an R&D facility. NCCOSC RDTE DIV piers are for RDT&E service and small craft, and marine mammal programs.

Notes:

[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.

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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]
Pier 160 Outboard	Small craft only	Two, IX Class	zero	zero
Pier 160 Finger A	Two, research vessels (90 & 135 ft), One research submarine (AGSS Class)	Two, IX Class Two, AGSS Class	zero	zero
Pier 160 Finger B	One, research vessel (135 ft)	One, small craft	zero	zero
Pier 160 Finger C	None	None	zero	zero
Pier 159 (Floating Pier)	Two, Boston Whaler boats	None	zero	zero
Pier 169 (Floating Pier)	None	Four, small boats only	zero	zero
Pier 122 (Floating Pier)	None	Two, small boats only	zero	zero
Pier 302	None	Two, small boats only	zero	zero

* NCCOSC RDTE DIV is an R&D facility. NCCOSC RDTE DIV piers are for RDT&E service and small craft, and marine mammal programs.

Notes:

[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.

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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.

Pier 160 Outboard, Finger A, starboard side, and Finger B, starboard side, support ancillary craft such as tugs, torpedo retrievers, berthing barges, etc. Pier 160, Finger 1, port side, is uniquely configured to support USS DOLPHIN (AGSS-555).

Note: NCCOSC RDTE DIV is an R&D facility. NCCOSC RDTE DIV piers are for RDT&E service and small craft, and marine mammal programs.

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.

One or two small craft per day are normally berthed at one of the piers. This loading does not vary significantly by season.

Note: NCCOSC RDTE DIV is an R&D facility. NCCOSC RDTE DIV piers are for RDT&E service and small craft, and marine mammal programs.

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.

Cold iron ship berthing modifications or improvements are not required at this time to meet current and anticipated R&D program requirements.

Note: NCCOSC RDTE DIV is an R&D facility. NCCOSC RDTE DIV piers are for RDT&E service and small craft, and marine mammal programs.

8. [15.d.]Describe any unique limits or enhancements on the berthing of ships at specific piers at your base.

The Navy's marine mammals are berthed and trained adjacent to Pier 160, Fingers B and C, Pier 122, and Pier 302. The entire pier area complex is uniquely designed for support of small craft and small research vessels including AGSS-555.

Note: NCCOSC RDTE DIV is an R&D facility. NCCOSC RDTE DIV piers are for RDT&E service and small craft, and marine mammal programs.

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TAB C

DEPOT LEVEL MAINTENANCE CAPACITY

Maintenance and Industrial Activities

Activities that actually perform Depot Level Maintenance shoudl 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

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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
14 Other - Marine Mammal Hardware	0	0	3	3	5	5	5	5
14 Other - Photo Interpretation	40	40	40	40	40	40	40	40
Total:	40	40	43	43	45	45	45	45

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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
14 Other - Marine Mammal Hardware	5	5	5	5	5	5	5	5
14 Other - Photo Interpretation	40	40	40	40	40	40	40	40
Total:	45	45	45	45	45	45	45	45

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Table 1.1.c: **Historic and Predicted Depot/Industrial Workload**

Commodity Type	Throughput (DLMHs)							
	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
14 Other - MMH	0	0	1000	1000	1,750	1,750	1,312	1,750
14 Other - PI	400	400	400	400	875	875	875	875
Total:	400	400	1,400	1,400	2,625	2,625	2,187	2,625

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Table 1.1.d: **Historic and Predicted Depot/Industrial Workload**

Commodity Type	Throughput (DLMHs)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
14 Other - MMH	1,750	1,750	1,750	1,750	1,750	1,750	1,750	1,750
14 Other - PI	875	875	875	875	875	875	875	875
Total:	2,625	2,625	2,625	2,625	2,625	2,625	2,625	2,625

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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
14 Other - MMH	6	6	6	6	6	6	6
14 Other - PI *	40	40	40	40	40	40	40
Total:	46	46	46	46	46	46	46

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 1.2.b: **Maximum Potential Depot/Industrial Workload**

Commodity Type	Throughput (DLMHs)							
	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
14 Other - MMH	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
14 Other - PI *	875	875	875	875	875	875	875	875
Total:	2,975	2,975	2,975	2,975	2,975	2,975	2,975	2,975

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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. **None needed**

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? **None needed**

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.)? **NO**

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**[1]

FY 1995 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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Table 2.1.b: **PREDICTED WORKLOAD VARIANCE FOR FY 1996**[1]

FY 1996 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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Table 2.1.c: **PREDICTED WORKLOAD VARIANCE FOR FY 1997**[1]

FY 1997 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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Table 2.1.d: **PREDICTED WORKLOAD VARIANCE FOR FY 1998**[1]

FY 1998 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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Table 2.1.e: **PREDICTED WORKLOAD VARIANCE FOR FY 1999**[1]

FY 1999 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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Table 2.1.f: **PREDICTED WORKLOAD VARIANCE FOR FY 2000**[1]

FY 2000 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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Table 2.1.g: **PREDICTED WORKLOAD VARIANCE FOR FY 2001**[1]

FY 2001 Commodity Type	Product (units)			DLMHs		
	Predicted Workload	Potential Workload	Variance	Predicted Workload	Potential Workload	Variance
14 Other - MMH	5	6	1	1,750	2,975	1,225
14 Other - PI *	40	40	0	875	875	0
Total	N / A	N / A	N / A	2,625	3,850	1,225

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force, and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

[1] This workload is not duplicative of any previously reported workload. Detail all production categorized as "other".

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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.

None.

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.

- 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.

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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.1.b: **Workload Requirements FY 1994**

FY 1994 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.1.d: **Workload Requirements FY 1996**

FY 1996 Commodity Type	Core Workload (DLMHs)			
	Core Workload	Directed Workload	Core "Plus" Workload	Title 10 Workload
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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
14 Other - MMH	0	1,750	1,750	0
14 Other - PI*	0	875	875	0
Total:	0	2,625	2,625	0

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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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	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1993 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.2.b: **Directed Workloads - FY 1994**

FY 1994 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1994 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.2.c: **Directed Workloads - FY 1995**

FY 1995 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1995 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.2.d: **Directed Workloads - FY 1996**

FY 1996 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1996 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.2.e: **Directed Workloads - FY 1997**

FY 1997 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1997 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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Table 2.2.f: **Directed Workloads - FY 1998**

FY 1998 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1998 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

Table 2.2.g: **Directed Workloads - FY 1999**

FY 1999 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 1999 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

Table 2.2.h: **Directed Workloads - FY 2000**

FY 2000 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 2000 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

Table 2.2.i: **Directed Workloads - FY 2001**

FY 2001 Commodity	Units Throughput						Total
	FMS	Mods	LQNC	BV	Engr	LSOR	
14 Other - MMH	0	0	612	700	438	0	1,750
14 Other - PI*	0	0	306	350	219	0	875
FY 2001 Total:	0	0	918	1,050	657	0	2,625

* Note: There are 137 units in the DOD inventory, divided between the Army, Air Force and Navy. Approximately 40 units are serviced on an annual basis. There is no need to expand capacity because all units are serviced on a rotating basis.

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. **YES**

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	CADS/PADS	LOE: Gun Ammo (20mm-16")
Threat	Strategic Nuclear	LOE: Small Arms(up to 50 cal.)
Surface Launched	Tactical Nuclear	LOE: Pyro/Demo
Threat		Grenades/Mortars/Projectile

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
A-29, RM 119	.08	203	.08	203	.08	203
A-29L, READY SERVICE LOCKER (RSL).	0	88	0	88	0	88
BUILDING 397, BATTERY STRONG.	.400	140	.400	140	.400	140

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BUILDING 54M, READY SERVICE LOCKER.	.0899	56	.0899	56	.0899	56
TOTAL	.5699	487	.5699	487	.5699	487

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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
A-29, ROOM 119/ROOM WITH READY SERVICE GSA LOCKER.	LOE: GUN AMMO.	OWN ACTIVITY USE TO SUPPORT PHYSICAL SECURITY	NON OTHER
A-29, ROOM 119/ROOM WITH READY SERVICE GSA LOCKER.	LOE: SMALL ARMS	OWN ACTIVITY USE TO SUPPORT PHYSICAL SECURITY	NON OTHER
A-29, READY SERVICE LOCKER.	LOE: SMALL ARMS	OWN ACTIVITY USE TO SUPPORT AUXILIARY SECURITY FORCE	NON OTHER
BUILDING 397, BATTERY STRONG.	LOE: SMALL ARMS. LOE GUN AMMO.	OWN ACTIVITY USE TO SUPPORT AUXILIARY SECURITY FORCE	NON OTHER

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BUILDING 54M, READY SERVICE LOCKER.	CADS/PADS, LOE: GUN AMMO.	OWN ACTIVITY USE TO SUPPORT ON GOING PROJECTS.	NON OTHER

Additional comments:

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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
A-29, ROOM 119	1.4	4.32	N	N	NA
A-29L, READY SERVICE LOCKER.	1.4	NA	N	N	NA
BUILDING 397, BATTERY STRONG.	1.4	50	N	N	NA
BUILDING 54M	1.3	50	N	N	NA

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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.

None.

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 (Site Level)	Y	LOE: SMALL ARMS. LOE:GUN AMMO.	160
Testing	Y	CAD/PADS	320
Manufacturing	N		
Outload	N		
Technical Support	Y	LOE: SMALL ARMS. LOE: GUN AMMO.	160

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BRAC-95 CERTIFICATION

Certified Data: BRAC 95 Data Call Number Four - NCCOSC RDTE DIV SAN DIEGO CA

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

NEXT ECHELON LEVEL (if applicable)

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

SIGNATURE

Commander
Title

30 JUNE 1994
Date

Naval Command, Control and Ocean Surveillance Center
Activity

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

MAJOR CLAIMANT LEVEL

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

Signature

Commander
Title

22 JULY 1994
Date

Space and Naval Warfare Systems Command
Activity

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

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

NAME (Please type or print)

Signature

Title

8/4/94
Date

Activity

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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

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

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

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

ACTIVITY COMMANDER

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

Signature

COMMANDING OFFICER
Title

29 JUNE 94
Date

NCCOSC RDTE DIV
Activity

CAPACITY ANALYSIS DATA CALL NUMBER FOUR

NCCOSC RDTE DIV