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Department of Defense

1995 Base Realignment and Closure T&E Joint Cross-Service Group Data Guidance

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T&E JOINT CROSS-SERVICE GROUP DATA GUIDANCE

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T&E JOINT CROSS-SERVICE GROUP

SECTION 1: GUIDANCE, STANDARDS, AND ASSUMPTIONS

The Military Departments will use the following information for data collection on each facility that has performed T&E and is still capable of performing T&E within the three functional areas of air vehicles, electronic combat, and armaments/weapons for any component (hardware or software), subsystem, system, or platform. Guidance is provided on conducting a cross-service analysis.

1.1 GUIDANCE

1.1.A Guidance for Identification of Test and Evaluation (T&E) Facilities / Capabilities

1.1.A.1 Scope

All DoD installations will be examined to identify facilities that have and are still capable of performing T&E within the three functional areas of air vehicles, electronic combat, and armaments/weapons.

All facilities (tenant and host on the installation) owned by DoD are within scope of this examination.

The Military Departments and Defense Agencies are responsible for submitting the data.

The scope of this examination will include T&E facilities that are funded from any funding source and appropriation (RDT&E, procurement, O&M, training, etc.).

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1.1.A.2 T&E Facilities / Capabilities

The definition of a T&E facility/capability to be used for purposes of data collection will be a set of DoD-owned or controlled property (air/land/sea space) or any collection of equipment, platforms, ADPE or instrumentation that can conduct a T&E operation and provide a deliverable T&E product.

The T&E facility can support T&E of components through systems platforms or missions in the following functional areas: air, land, sea, space, C4I, armaments/weapons, electronic combat, nuclear effects, chem/bio, propulsion, environmental effects, guidance, and materials.

The T&E facilities will be grouped under one of the following test facility categories: modeling and simulation, measurement, integration laboratory, hardware-in-the-loop, installed systems, or open air (See Appendix A for definitions). It will typically consist of all of the following components: data collection sensors and instrumentation, data reception and storage, data processing, and data display and reporting.

The scope will include T&E operations from all funding sources (RDT&E, procurement, O&M, training, etc.).

1.1.B Guidance for Military Department Data Collection

The Military Departments will use the T&E facility/capability definitions included within this data call package. In your descriptions of facility technical capabilities include programmed investments/upgrades in Military Department or Defense Agency 1995 Future Years Defense Plan (FY95 FYDP) in support of the President's Budget (PB95). When calculating capacity data, use the guidelines/definitions included in this package.

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Data will be collected on all facilities/capabilities that are within the scope defined in section 1.1.A. Data will be collected using Appendix A, Data Forms and Instructions

1.1.C Guidance for Military Department Data Analysis

The Military Departments will use the 95 FYDP as the baseline to calculate costs and savings. Address closure/realignment opportunities at the functional T&E and facility levels. Retain essential technical capabilities for core competencies and technologies. Consider consolidation of subfunctions such as centralized maintenance of common platforms, instrumentation, data processing. Consider retention of difficult-to-replace essential geographic assets (e.g. airspace, ground/terrain, climates, seaports) without regard to "ownership". Recognize adaptability to future technologies. Do not consider environmental cleanup costs/difficulties for closure or downsizing a facility/capability.

1.2 ASSUMPTIONS

Cross-service analyses will use the following assumptions:

1.2.A T&E workload is not a direct function of force structure, but is related to the RDT&E budget and acquisition funding.

1.2.B The FYDP is considered certified data. Information from non-DoD activities will not be used as a basis for analyses.

1.2.C At least one test facility/capability will be required to address any technology in use or nearing maturation. Geographic assets (airspace, ground space, sea space, terrain, climate, physical security) must be adequate. Closure or realignments of laboratories, maintenance depots, and training activities could necessitate consolidation with T&E facilities/capabilities.

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1.2.D Evaluation of developing technologies and systems will follow a process that involves a progression of test facilities/capabilities ranging from modeling and simulation, measurements, through hardware-in-the-loop, system integration laboratories, installed-systems, to open air/range testing.

1.2.E Potential for internetting facilities/capabilities can be considered in workload projections if investments to provide internetting capability are programmed.

1.2.F With regard to outsourcing, it will be assumed that work currently performed in-house will remain in-house and that work currently outsourced will remain outsourced.

1.2.G With regard to foreign military sales (FMS), it will be assumed that the FMS workload will continue at FY93 levels into the future (straight-lined).

1.3 FUNCTIONAL AREAS

Three functional areas of T&E facilities/capabilities were selected for specific emphasis during cross-service analyses following analysis of the T&E Reliance study areas. These three areas -- air vehicles, electronic combat, and armament/weapons -- show the greatest potential for cross-service consolidation opportunities; others are predominately or nearly Military Department unique.

Over-arching measures of merit have been developed that are applicable to many T&E facilities/capabilities across the three functional areas. These measures generally relate to the overall demographics of the facility/capability at an installation and are important to evaluating a facility/capability for: overall condition; potential to support current or future contingency, mobilization and future missions; additional workload; and overall Mission Essentiality. Additional data specific to the three functional areas will also be collected. For

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the purpose of this data collection, the three functional areas are defined as follows:

1.3.A Air Vehicles

This functional area includes facilities involved in the testing of all air vehicles/subsystems/components whether fixed wing or rotary wing and test of major sub-systems (e.g., avionics, engines, and sensors). This includes flight testing and the testing involving pre- and post-flight preparation and processing of the air vehicle. Unmanned air vehicles and cruise missiles are included.

1.3.B Electronic Combat (EC) Systems

This functional area includes facilities involved in the testing of stand-alone electronic combat systems and electronic combat subsystems that are normally integrated into other weapon systems. It includes the testing of systems or subsystems that have as their primary mission threat warning, testing of systems that provide countermeasures in the RF (radio frequency) spectrum against radars and other RF sensors, systems that provide countermeasures that are used against sensors in the electro-optical or infrared spectrum as well as testing of electronic and C3 countermeasures.

1.3.C Armaments / Weapons

This functional area includes facilities involved in the testing of the weapons portion of a weapon system. In those cases where the weapon system is composed almost exclusively of the weapon, it may include system-level and platform integration testing. In other cases, it addresses just the weapon subsystem (e.g., guidance and control, propulsion, warheads, and airframe), while the testing of the weapon system's vehicle is in another functional area.

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2.0 CAPACITY AND TECHNICAL RESOURCES

We have reviewed the T&E facilities that exist at the Port Hueneme Division of the Naval Surface Warfare Center and determined that the only two facilities that fall within the scope of this data call are our Integrated Combat System Test Facility at Point Loma, CA and the Self Defense Test Ship in Port Hueneme CA.

The Integrated Combat Systems Test Facility falls into the "Integration Laboratory" facility type and is strongly Navy unique. This facility performs no testing of "Air Vehicles" or of the "Weapons portion of a weapons system". Approximately 4% of the work of this facility falls within the definition of the "Electronic Combat" functional area. In addition it should be pointed out that this facility is being moved from Point Loma to Port Hueneme, CA. The move will be completed prior to FY 97 in compliance with BRAC 91 direction.

The Self Defense Test Ship is currently being outfitted and will not become operational until October of 1994. The Test Ship does not fit precisely into any of the facility types defined in this data call but comes closest to the definition of an "Installed Systems Test Facility". This ship will be involved in the testing of "Armaments / Weapons" when it becomes operational.

TARGET
SHIP ?

A complete set of data is provided for the Integrated Combat Systems Test Facility and the Self Defense Test Ship in Tabs A and B respectively.

NAWCWPNS
Point Mugu

SDTS

SWEF

Port Hueneme Division
NSWC
2-3-94

NAVAL SURFACE WARFARE CENTER
PORT HUENEME DIVISION
PORT HUENEME, CA
N63394

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TAB A

INTEGRATED COMBAT SYSTEMS TEST FACILITY

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2.1 WORKLOAD

Annual workload will be reported in units as follows: for open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available, missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity on page 28.

2.1.A Historical Workload

-2.1.A.1 What amount of workload have you performed each year from FY86-93? Use the Historical Workload Form provided in Appendix A of this package.

2.1.B Forecasted Workload

-2.1.B.1 Identify all appropriations (by program element) that generated a requirement for testing or test support, or are expected to generate a requirement for testing/test support in your Military Department (by functional areas of air vehicles, electronic combat (EC), armament/ weapons, and other test) for FY92, FY93, and each year in the FY95 FYDP. The Military Departments will provide total funding amounts appropriated for all PEs identified in each functional area shown above.

EC - PE 63582N (FY 92 -FY 00)

Other - PE 63582N, PE 78012 (FY 92 -FY 00)

-2.1.B.2 What amount of test work was performed at your facility (in workyears by functional areas of air vehicles, electronic combat, armament/weapons, other tests, and other) in FY92 & FY93?

EC (FY 92) 2WY, (FY 93) 2 WY

Other (FY 92) 48 WY, (FY 93) 48 WY

2.2 UNCONSTRAINED CAPACITY

-2.2.A Unconstrained capacity is the maximum capacity of this facility, assuming manpower and consumable supplies (excluding utilities) are unlimited, but allowing for expected downtime (maintenance, weather, darkness (daylight), holidays, etc.). Provide your response by filling out the Determination of Unconstrained Capacity Form in accordance with the instructions in Appendix A.

-2.2.B Is this capacity limited by the physical characteristics of the facility itself, safety or health considerations, commercial utility availability, etc?

NO

2.3 TECHNICAL RESOURCES

-2.3.A Does the facility have a specified war-time or contingency role established in approved war plans? Yes/no.

NO

-2.3.B Does the facility provide a T&E product or service, without which irreparable harm would be imposed on the test mission of the host installation?

YES. Naval Research and Development (NRaD) for ACDS Blk 0, 1 development.

-2.3.B.1 On the test mission of any other activity?

YES. PHD NSWC's ability to deliver certified operational programs to the Fleet.

-2.3.B.2 On any other mission deemed critical to the operational effectiveness of the armed forces of the United States?

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YES. The Fleet's ability to carry out their mission would be adversely impacted if operational computer programs were not independently verified and validated and problems corrected.

SECTION 3: MEASURES OF MERIT

This section relates the measures of merit and the required data to the four criteria that have been established for Military Value. The four military value (MV) criteria are:

- CRITERION 1:** The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.
- CRITERION 2:** The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.
- CRITERION 3:** The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.
- CRITERION 4:** The cost and manpower implications.

3.1 OVER-ARCHING MEASURES OF MERIT

The over-arching measures of merit are listed with accompanying questions (or data requirements) intended to elicit standard information upon which the cross-service analyses can be based, and on which the Joint Cross-Service Groups can base their reviews of the Military Department analyses. Additional specific measures of merit are shown under individual functional areas. The numbers in parentheses () before each measure of merit indicate the

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BRAC selection criteria for military value.

3.1.A. Interconnectivity (MV I) - Measure of Merit: *Extent of linkage of this facility with other facilities and assessment of single-node failure potential.*

-3.1.A.1 What percentage of total test workload in FY93 involved the real-time or near real time exchange of data or control with another facility? List the facilities you interconnect to for test and identify how many are simultaneous activities. Identify these as to whether they are internal and external to the site.

Five percent. Internal connection to NRaD and external data links via NRaD to the fleet.

-3.1.A.2 If your facility were to be closed, would there be an impact on other facilities to which you are connected? Yes/no. If yes, explain.

YES. NRaD in development support for Advanced Combat Direction System (ACDS)/C⁴I systems.

3.1.B Facility Condition (MV II) - Measure of merit: *Current and planned status of the T&E facilities for supporting assigned test missions.*

Fill out the Facility Condition Form in Appendix A in accordance with the instructions.

3.1.C Environmental and Encroachment Carrying Capacity (MV II) - Measure of Merit: *Extent of current and future potential environmental and encroachment impacts on air, land, and sea space for testing.*

Not Applicable

- 3.1.C.1 Do you have limiting (current or future) environmental and/or encroachment characteristics associated with the installation/facility? Yes/no. If yes, explain.

- 3.1.C.2 How much could workload be increased before this limit would be

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reached? Express your answer as a percentage of your current workload.

- **3.1.C.3** Do you currently operate under temporary permits of an environmental nature, or voluntary agreements (including treaties) of any sort that deal with the environment? If so, when do they expire? Please describe.

- **3.1.C.4** What is the total population within a 50 mile radius? 100 mile radius? 150 mile radius? 200 mile radius?

- **3.1.C.5** Identify the commercial air/land/sea traffic routes, public use of air/land/sea space, and frequency of use for each that affects or could affect mission accomplishment in your air, land, or sea space.

- **3.1.C.5.A** How many test missions per year are canceled due to commercial or public use?

- **3.1.C.6** What is the number of test missions that have been canceled due to encroachment in each of the last two years?

3.1.D Specialized Test Support Facilities and Targets (MV I) - Measure of Merit: *Extent to which specialized test support facilities and targets are available.*

Not Applicable

-**3.1.D.1** Do you have specialized facilities are required to support you in conducting your test operations at your facility (e.g. Aerial delivery load build-up facilities; parachute drying towers/packing facilities; paratroop support facilities; specialized fuel storage and delivery systems; mission planning facilities; corrosion control, painting, washing facilities; and specialized maintenance facilities such as avionics intermediate shops)? Yes/no. If yes, please describe.

-**3.1.D.2** Are specialized targets required to support this facility? Yes/no. If yes, explain.

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-3.1.D.2.A Have the specialized targets been validated? Yes/no. If yes, by whom?

3.1.E Expandability (MV III) - Measure of Merit: *Extent to which an installation/facility is able to expand to accommodate additional workload or new missions.*

-3.1.E.1 Other than the expandability inherent in unconstrained capacity, discussed earlier, are there any special aspects of this facility that enhance its ability to expand output within each T&E functional area? Yes/no. If yes, explain. **YES**

1. Co-location with NRaD C4I development laboratories (ACDS, NTCS-A, LINK 11, LINK 16).

2. Access to SATCOM, Internet, SECURE Wide Area Network.

-3.1.E.1.A Can you accept new T&E workload different from what you are currently performing? Yes/no. If yes, identify by T&E functional area and test type.

YES. Additional developmental engineering, training, and S&T in both EC and other functional areas.

-3.1.E.2 Are airspace, land, and water areas--adjacent to areas under DoD control--available and/or suited for physical expansion to support new missions or increased footprints? Yes/no. If yes, please explain.

YES. Proximity to open ocean and military op areas. Access to radar site with 180 degree unobstructed coverage of Pacific Ocean.

-3.1.E.3 Is the facility equipped to support secure operations? Yes/no. If yes, to what level of classification (Confidential, Secret, Top Secret, Special Access Required)?

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YES. Special Access Required.

-3.1.E.4 Are there any capital improvements underway or programmed in the 95 FYDP, that would change your capacity/capability? Yes/no. If yes, explain.

YES. Asynchronous Transfer Mode (ATM) switches, fiber optic LANs, Advanced Display Systems.

3.1.F Uniqueness (MV I) - Measure of Merit: *Extent to which the facility is one-of-a kind.*

-3.1.F.1 Is this a one-of-a-kind facility within the DoD? Yes/no. If yes, describe.

YES. Only Navy facility that can conduct Combat System Integration Testing for the following ship classes:

1. CG/CGN/DDG
2. DD
3. FFG
4. LHD/LHA/LPD
5. CV/CVN

-3.1.F.1.A Within the US Government? Yes/no. If yes, describe.

YES. See 3.1.F.1

-3.1.F.1.B Within the US? Yes/no. If yes, describe.

YES. See 3.1.F.1

-3.1.F.2 Are you currently providing support to DoD users outside your Military Department? Yes/no. If yes, indicate percentage of total workload in FY92 and FY93 by Military Department.

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NO.

3.1.G Available Air, Land, and Sea Space (MV II) - Measure of Merit:
Extent to which controlled test ranges satisfy weapon system test requirements.

Not Applicable

-3.1.G.1 How many square miles of air, land, and sea space are available to support test operations?

-3.1.G.2 Who owns and or controls the land under the restricted airspace you use?

-3.1.G.3 How much of this is Restricted Airspace, and what altitude limits are associated with the restricted areas?

-3.1.G.4 Do you have special use airspace other than supersonic airspace? Yes/no. If yes, for what types of test (e.g. terrain following radar)? Dimensions? Will it support simultaneous users? Yes/no.

-3.1.G.5 Is the airspace over land or water? List the number of square miles over each.

-3.1.G.6 Identify known or projected airspace problems that may prevent accomplishing your mission.

-3.1.G.7 What is the maximum straight line segment in your airspace in nautical miles?

-3.1.G.8 What public airspace have you used for overflight of weapons systems in the past? What was the nature of those tests? Do you anticipate being able to use that same public airspace for similar tests in the future? Yes/no.

3.1.H Geographic/Climatological Features (MV II) - Measure of Merit:

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Extent to which types of climatic/geographic conditions represent world-wide operational conditions.

Not Applicable

-3.1.H.1 Describe the topography and ground cover/vegetation within your test airspace (include nap-of-the-earth capability). Identify all of the following that apply: mountains, forest/jungle, cultivated lowland, swamp/riverine, desert, and sea. State the area of each in square miles.

-3.1.H.2 Are there features of the local geology or soil conditions that enhance or inhibit any types of test?

-3.1.H.3 Did you have to go to other geographical locations to satisfy test requirements? Yes/no and explain. If yes, provide as a percent of overall workload per year for the past 8 years.

-3.1.H.4 What is the number of days per year the average temperature is below 32 degrees F? Between 32 and 95 degrees? Above 95 degrees?

-3.1.H.5 What is the number of days per year the average relative humidity is below 30%? Between 30 and 80%? Above 80%?

-3.1.H.6 What is the number of test missions per year (1985 - 1993) canceled due to weather?

-3.1.H.7 What is the number of test days per year (1985 - 1993) canceled due to weather?

-3.1.H.8 What is the number of days per year the visibility is less than 1 mile? Between 1 and 3 miles? Greater than 3 miles?

-3.1.H.9 What is the average number of flying days available per year for flight test? Provide historical average from the past eight years.

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-3.1.H.10 What percentage of the time are your test operations restricted due to weather?

3.2 AIR VEHICLES

This functional area includes facilities involved in the testing of all air vehicles/subsystems/components whether fixed wing or rotary wing and test of major subsystems (e.g., avionics, engines, and sensors). This includes flight testing and the testing involving pre- and post-flight preparation and processing of the air vehicle. Unmanned air vehicles and cruise missiles are included.

Not Applicable

3.2.A Supersonic Airspace (MV II) - Measure of Merit: *Extent of range size to support weapon system requirements.*

-3.2.A.1 Do supersonic corridors or areas exist? Yes/no.

-3.2.A.2 Where are they located relative to your airfield?

-3.2.A.3 At what altitude (upper and lower altitude)?

-3.2.A.4 Over land or water? What size and shape (length and width)?

-3.2.A.5 Are there restrictions you must observe to use this space? Yes/no. If yes, explain.

-3.2.A.6 What is the maximum number of simultaneous users?

-3.2.B Airfield and Facility Characteristics (MV II) - Measure of Merit: *Extent of air vehicle infrastructure to support T&E operations.*

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-3.2.B.1 Provide a brief description of your airfield and support facilities, to include the following: number and azimuth of runways, elevation, runway length (excluding overrun), overrun length, terminal and/or landing aids, arresting cable (yes/no, type), ramp area (in square feet), construction material (runway and ramps), load capability, and hangar space.

-3.2.B.2 How close and how many emergency runways or airfields are in your area of operation?

-3.2.B.3 Where is your airfield situated relative to working areas (airspace) for supporting test operations?

-3.2.B.4 What makes your airfield unique or at least suited for supporting test operations?

-3.2.B.5 Is there a size, weight, maintenance or mission limitation that would affect test operations? If so, describe the limitation(s).

-3.2.B.6 Including hangers and ramp space, how many fighter size aircraft could you support? Large multi-engine aircraft? Rotary wing? UAV? Cruise missiles?

-3.2.C Test Operations (MV II) - Measure of Merit: *Extent of T&E operations that the airspace can accommodate.*

-3.2.C.1 What types of air vehicle testing (fixed wing, rotary wing, unmanned vehicles, and cruise missiles) can be supported? (e.g. performance, handling qualities, fatigue life, static, wheels and brakes, physical integration with external stores or avionics)

-3.2.C.2 Do ground support facilities exist for pre-flight checkout or rehearsal of test missions?

-3.2.C.3 What kinds, numbers of aircraft and mix can be supported (manned and

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unmanned)?

-3.2.C.4 Does UAV and or rotary wing operations pose any limitation on other types of missions? If yes, explain.

-3.2.C.5 What sorts of missions (e.g. air-to-air, air-to-ground and refueling) can be flown within local airspace?

-3.2.C.6 What is the maximum number of simultaneous missions you can support that require telemetry?

-3.2.C.7 What is the largest number of simultaneous test missions you have supported in your airspace?

-3.2.C.8 Identify the number, types, and owners of aircraft at your installation.

3.3 ELECTRONIC COMBAT

This functional area includes facilities involved in the testing of stand-alone electronic combat systems and electronic combat subsystems that are normally integrated into other weapon systems. It includes the testing of systems or subsystems that have as their primary mission threat warning, testing of systems that provide countermeasures in the RF (radio frequency) spectrum against radars and other RF sensors, systems that provide countermeasures that are used against sensors in the electro-optical or infrared spectrum as well as testing of electronic and C3 countermeasures.

3.3.A Threat Environment (MV I) - Measure of Merit: *Extent to which the capability satisfies weapon system requirements.*

-3.3.A.1 What is the number of threats simulated?

1024 threats.

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-3.3.A.2 How many simultaneous threats can be simulated? What type (e.g. AI, AAA, SAM)? What is maximum signal density? Average density? What power level? What band? Radiated or injected?

1024 threats. All facets of threats (type, max. signal density, average density, power levels, and bands) are selectable within known threat parameters. All threats injected.

-3.3.A.3 Are the threat software models and simulators (software/hardware) validated? Yes/no. If yes, by whom?

YES. Product acceptance test by NSWC.

-3.3.A.4 Do you conduct open loop testing? Reactive? Closed loop? Yes/no for each.

- 1. Open loop - NO**
- 2. Reactive - NO**
- 3. Closed loop - YES**

-3.3.A.5 What is the threat representation (fidelity) and density?

Threat parameters are simulated and user selectable. Libraries can be customized to represent any known real world threat, including threat fidelity and density.

-3.3.A.6 Are you capable of simulating land threats? Sea threats? Combined land/sea threats? Yes/no. If yes, describe.

YES. See 3.3.A.2

-3.3.A.7 What geographic dispersion can be simulated?

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Capable of providing EW simulation/stimulation from any part on earth.

-3.3.A.7.A Threat lay down?

Constrained only by limits of threat receiver capabilities/design.

-3.3.A.7.B Representative distance?

**-3.3.A.8 Are the threats moveable (i.e.dynamic) within a test scenario?
relocatable to new scenarios? yes/no**

YES. Dynamic/relocatable.

-3.3.A.9 Is the facility interlinked with off-site threats? Yes/no. If yes, how are you linked?

YES. Via live link capabilities on-site through LINK 11/LINK 16.

-3.3.A.10 Is there a limit on simultaneous users? Yes/no. If no, explain.

YES.

3.3.B Test Article Support (MV II) - Measure of Merit: *Extent to which test support satisfies weapon system test requirements.*

Not Applicable

-3.3.B.1 Is there a size, weight, or other limitation on test operations the facility can support? Yes/no. If so, identify the limits and measures to remove them.

-3.3.B.2 What is the number of simultaneous countermeasures that can be evaluated?

-3.3.B.3 What range of spectra can be tested and evaluated?

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-3.3.B.4 What are the available spectra?

-3.3.B.5 Do you have a scene generation capability? Yes/no. If yes, describe.

3.4 ARMAMENTS / WEAPONS

This functional area includes facilities involved in the testing of the weapons portion of a weapon system. In those cases where the weapon system is composed almost exclusively of the weapon, it may include system-level and platform integration testing. In other cases, it addresses just the weapon subsystem (e.g., guidance and control, propulsion, warheads, and airframe), while the testing of the weapon system's vehicle is in another functional area.

Not Applicable

3.4.A Directed Energy (MV II) - Measure of Merit: *Extent to which the facility satisfies directed energy weapon system test requirements.*

This includes testing of all types of directed energy weapons.

-3.4.A.1 Do you currently test directed energy weapon systems? Yes/no.

If yes, explain. Describe the power source(s) you have available. What is your maximum downrange distance?

3.4.B Rocket / Missile / Bomb Systems (MV II) - Measure of Merit: *Extent capability satisfies weapon system test requirements.*

This includes the testing of all types of rocket, missile, and bomb systems at the system/subsystem/component level, both stand alone and integrated into the launch platform. This includes testing of air-to-air, air-to-surface, and surface-to-air missiles.

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-3.4.B.1 Ground Space

-3.4.B.1.A What is the area in square miles of the land and water space which you can use to conduct tests of live rocket, missile, or bomb systems?

-3.4.B.1.B How many separate and distinct land and water test areas are available to conduct tests of live weapons? List them and the size of each in acres.

-3.4.B.1.C What are the maximum ranges (nautical miles) you can test, by type weapon?

3.4.B.2 Test Operations

-3.4.B.2.A For each of your land and water ranges, how many test missions were scheduled in FY92 and FY93 that were required to use safety footprints comparable to those required for the following types of weapons:

--Unguided 2000 pound-class ballistic weapon

---live?

---inert?

--Guided weapon (e.g., GBU-24 class)

---live?

---inert?

--Stand-off weapon (e.g., AGM-130 class)

---live?

---inert?

--Short-range missile (e.g., AIM-9)

---below 5000 feet MSL

---between 5000 and 20,000 feet MSL

---above 20,000 feet MSL

--Long-range missile (e.g., AIM-120)

---below 5000 feet MSL

---between 5000 and 20,000 feet MSL

---above 20,000 feet MSL

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-3.4.B.2.B Were flight termination systems required? Yes/no.

-3.4.B.2.C If no missions were scheduled in a category, give the reason(s).

-3.4.B.2.D Were any scheduled missions canceled before the mission, or terminated/aborted during the mission because of encroachments into the safety footprint? Yes/no. If yes, how many per year.

APPENDIX A - DATA FORMS AND INSTRUCTIONS

1. Form, General Information

Facility/Capability: Enter the descriptive title for the facility/capability. Avoid using acronyms and abbreviations unless the title defines the acronym. Example: Guided Weapons Evaluation Facility (GWEF).

Origin date: Enter today's date in the format MM/DD/YY.

Military Department: Allowable entries include "N" for Navy, "A" for Army, and "AF" for Air Force. If the facility/capability is managed by an "Other Government Agency" (e.g. ARPA, DNA, ACC) enter the appropriate Agency name.

Organization/Activity: Enter the name (with acronym) for the field activity. Example: White Sands Missile Range (WSMR).

Location: Enter the location where the facility/capability is physically located (installation, city or other common name).

Unit Identification Code (UIC): Enter the UIC.

T&E Functional Area: Enter the single area this facility/capability primarily supports: Air Vehicles, Armament/Weapons, Electronic Combat, or Other.

T&E Test Facility Category: Enter the facility category based on the following definitions:

Integration Laboratory

- (1) Digital Models and Computer Simulations (DMS)- Those models and

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simulations which either provide a simulated test environment or representations of systems, components, and platforms. DMSs are used throughout the development and test process, as analytical tools, as well as tools to drive or control electronic and other environmental stimuli provided, the test articles on Open Air Ranges (OARs), Installed Systems Test Facilities (ISTFs), Hardware in the Loop Test Facilities (HITLs), Integration Laboratories (ILs), and Measurement Facilities (MFs).

(2) Measurement Facilities (MF)- Those facilities used to provide a specialized test environment and/or data collection capability. MFs may be ground based laboratories or open air facilities (often located at or part of OARs).

(3) Integration Laboratories (IL)- Those facilities designed to support the integration and test of various systems and components that will be installed in a host platform. ILs are generally platform specific or unique. However, the simulated stimuli and data collection capabilities required by ILs are often common with those required by HITLS and ISTFs.

(4) Hardware-In-The-Loop (HITL)- Those facilities which provide capabilities to test systems or their components at various stages of development (e.g., brassboard, breadboard, prototype, preproduction, production). HITLs provide stimuli and data collection capabilities to permit test and evaluation of a system/component independent of the host platform.

(5) Installed Systems Test Facilities (ISTF)- Ground based test facilities (usually chambers) that allow test of systems and weapons as installed in the combat platform. ISTFs provide simulated test environments and stimuli and data collection capabilities for the test article(s).

(6) Open Air Ranges (OAR)- Those facilities which consist of controlled or restricted areas to support the test of platforms/systems in a real world, dynamic environment. They are instrumented with data collection, time-space-position information, positive control of test participants, and real or simulated targets and

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threats as appropriate.

Percentage Use: Enter percentage of time, based on hours, the facility is used to support each of the following (total must sum to 100%):

(1) Test and Evaluation (T&E)- Any facility that is accountable to Military Department and/or OSD T&E management oversight. Operation and sustainment of these facilities are typically funded from 6.5 or procurement program elements. Facilities in this category were developed to support developmental and/or operational test and evaluation and focus on the evaluation of system safety, technical performance, environmental (climatic, electromagnetic, etc.) effects, sustainability and operational suitability, maturity of production processes, and compliance with system specifications and quality standards.

(2) Science & Technology (S&T)- Any facility that is accountable to Military Department and/or OSD S&T management oversight. Operation and sustainment of these facilities are typically funded from 6.1, 6.2, and 6.3a program elements. Facilities in this category were developed to support experimental studies leading to enhanced understanding of new phenomena for new military applications as well as efforts directed toward the solution of problems in the physical, behavioral, and social sciences.

(3) Developmental Engineering (DE)- Any facility that is accountable to Military Department and/or OSD Research, Development and Engineering or acquisition management oversight. Operation and sustainment of these facilities are typically funded from 6.3b through 6.4 or procurement program elements. Facilities in this category were developed to support proof-of-principle and engineering development of systems.

(4) In-Service Engineering (IE)- Any facility that is accountable to Military Department and/or OSD logistics management oversight. Operation and sustainment of these facilities are typically funded from 6.7 or Operations and Maintenance (O&M) program elements. Facilities in this category were developed to support the maintenance facilities. These facilities tend to be system

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peculiar capabilities to conduct checkouts of the system/subsystems after they have undergone a modification, upgrade or improvement.

(5) Training and Doctrine (T&D)- Any facility that is accountable to Military Department and/or OSD training and doctrine management oversight. Operation and sustainment of these facilities are typically funded from O&M program elements. Facilities in this category were developed to support the training and proficiency of operational forces and/or the development of new tactics, doctrine or force structure concepts.

(6) Other - Any work outside the above.

Breakout by T&E Functional Area: For each of the above categories (T&E, S&T, DE, IE, T&D, Other) enter percentage of time facility is used to support Air Vehicles, Armament/Weapons, Electronic Combat, or Other. Total of breakout areas must sum to top line percentage.

2. Form, Technical Information

Facility Description: Enter a brief description of the facility, including the mission statement.

Interconnectivity/Multi-Use of Facility: Describe any linking/interconnectivity with other T&E facilities. Include physical and/or data linkages (bandwidth, data rate, etc.). Describe any unique characteristics or multiple use of the resource (e.g., operating by rotating crew, availability of resource dependent on ..., equipment will be obsolete by ..., etc.)

Type Tests Supported: Enter specific types of tests accomplished by the Facility (e.g., electromagnetic compatibility, radar cross section, missile miss distance, air-to-air radar simulation, etc).

Summary of Technical Capabilities: Describe technical capabilities at your

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facility to include:

Instrumentation/Assets: Enter instrumentation and other assets (e.g., jammers, target generators, recording equipment, computer support equipment) associated with the resource.

Provide fact sheets, not to exceed two pages.

Keywords: Enter any keywords (spelled-out with acronyms) associated with functions and capabilities of the facility (e.g., electromagnetic interference/electromagnetic compatibility (EMI/EMC), anechoic chamber, radar cross section (RCS)).

3. Form, Additional Information

Additional Information Form. Enter facility name. Provide personnel numbers for FY93, FY94, and each year in the FY95 FYDP broken out according to officers, enlisted, civilians and contractors. Enter total area square footage of indoor space, test area square footage of indoor space used for T&E purposes, and list office space square footage separately. Tonnage of equipment is the weight of all equipment associated with this facility. Volume of equipment is the volume of all equipment associated with this facility. Annual maintenance cost is self explanatory. Moving costs are estimates for packing equipment at the losing site and reassembly, calibration, etc at the receiving site, not including transportation costs. Capital equipment investments are the current improvement and modernization funds as well as any programs funds earmarked for equipment purchase.

4. Form, Facility Condition

Facility/Capability: Enter the descriptive title for the facility/capability.

Age: Indicate the age of the facility/capability as of the date on the General

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Information Form.

Replacement Value: Enter the replacement value for the facility/capability. Indicate whether this includes the replacement cost for the equipment.

Maintenance and Repair Backlog: Enter the total dollar amount of the backlog for maintenance and repair items.

Date of Last Upgrade: Date of the last major upgrade to the facility.

Nature of Last Upgrade: Describe the purpose and capability increase from the last major upgrade. Indicate the date this upgrade became available for use.

Major Upgrades Programmed: Enter information on each of the major upgrades that are programmed. Indicate the total programmed amount and provide a summary description of the upgrade.

5. Form, Historical Workload

Use this form to report the workload performed at this facility each year from FY86-93.

Facility/Capability Title: Enter the descriptive title for the facility/capability. Avoid using acronyms and abbreviations unless the title defines the acronym. Example: Guided Weapons Evaluation Facility (GWEF).

T&E Functional Area: For each of these functional areas (Air Vehicles, Armament/Weapons, Electronic Combat, Other Test, and Other), enter direct labor hours, test hours, and/or missions for FY86 through FY93. For open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available, missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity

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on page 28.

6. Form, Determination of Unconstrained Capacity

Annual Hours of Downtime, 1: If the facility were required to operate continuously for 24 hours a day, seven days a week, 52 weeks a year, determine the number of hours per day the facility can reasonably operate if it is not constrained by personnel strength? Consider your facilities, equipment, and instrumentation fixed at current levels.

1. Add up the total hours of downtime per year for maintenance, weather, darkness (daylight), holidays, etc. Enter in line 1.

Average Downtime Per Day, 2: Divide line 1 by 365 to get the average downtime per day. Fill in at line 2.

Average Hours Available Per Day, 3: Subtract line 2 from 24 hours to get the average number of hours per day the facility is available for test. Fill in at line 3.

Analyze your historic workload mix to determine the average number and type of tests that have been run simultaneously at your facility. Determine the maximum number of tests that can be run simultaneously if there is no limit to personnel authorizations. Enter the following data from your analysis

Test Types, 4: Enter in column 4 the name of the type of test.

Tests at One Time, 5: List the number of each type of test that can be conducted simultaneously in column 5.

Workload Per Test

Per Facility Hour, 6: List the workload (reported in units as follows: For open air range flight testing, report workload in flight hours and numbers of missions.

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For all other test facility categories, including open air range other than flight testing, report workload in direct labor hours) represented by each hour the test is run. Do this at line 6.

From the historic workload analysis, determine the average workload per facility hour represented by the average or "typical" test. In the row titled "TYPICAL", in column 5, enter the number of these "typical" tests that can be run in addition to those already listed above. Enter the workload per "typical" test per facility hour in column 6. To estimate test hours from direct labor hours for the Historic Workload Form, divide the facility workload by this number (the number of direct labor hours per "typical" test per facility hour) and enter in the test hour block on the Historic Workload Form.

Workload Per

Facility Hour, 7: Multiply column 5 by column 6. Enter in column 7. Total column 7.

Unconstrained

Capacity Per Day, 8: Multiply the total from column 7 by line 3 to get the unconstrained capacity per average day. Enter in line 8.

Annual

Unconstrained

Capacity, 9: Multiply line 8 by 365 to get the unconstrained capacity per year for the facility. Enter on line 9.

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TAB B

SELF DEFENSE TEST SHIP

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SECTION 2: CAPACITY & TECHNICAL RESOURCES

2.1 WORKLOAD

Annual workload will be reported in units as follows: for open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available, missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity on page 28.

2.1.A Historical Workload

-2.1.A.1 What amount of workload have you performed each year from FY86-93? Use the Historical Workload Form provided in Appendix A of this package.

2.1.B Forecasted Workload

-2.1.B.1 Identify all appropriations (by program element) that generated a requirement for testing or test support, or are expected to generate a requirement for testing/test support in your Military Department (by functional areas of air vehicles, electronic combat (EC), armament/ weapons, and other test) for FY92, FY93, and each year in the FY95 FYDP. The Military Departments will provide total funding amounts appropriated for all PEs identified in each functional area shown above.

The following programs are expected to generate a requirement for testing during the FY 95 to FY 02 time frame:

| | | | |
|---------|----------|---------------------------|---|
| SSDS | FY 96-99 | PE 0604755N & PE 0603755N | |
| RAM | FY 95-97 | PE 0604755N | |
| CIWS | FY 95-97 | PE 0604755N | |
| ESSM | FY 98-02 | PE 0604755N | R |
| SPQ 9B | FY 95-96 | PE 0604755N | |
| ETC GUN | FY 97-99 | PE 0603795N | |
| SDTS | FY 94-02 | PE 65863N | |

-2.1.B.2 What amount of test work was performed at your facility (in workyears by functional areas of air vehicles, electronic combat, armament/weapons, other tests, and other) in FY92 & FY93?

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SECTION 2: CAPACITY & TECHNICAL RESOURCES

2.1 WORKLOAD

Annual workload will be reported in units as follows: for open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available, missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity on page 28.

2.1.A Historical Workload

-2.1.A.1 What amount of workload have you performed each year from FY86-93? Use the Historical Workload Form provided in Appendix A of this package.

2.1.B Forecasted Workload

-2.1.B.1 Identify all appropriations (by program element) that generated a requirement for testing or test support, or are expected to generate a requirement for testing/test support in your Military Department (by functional areas of air vehicles, electronic combat (EC), armament/ weapons, and other test) for FY92, FY93, and each year in the FY95 FYDP. The Military Departments will provide total funding amounts appropriated for all PEs identified in each functional area shown above.

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| ESSM | FY 98-02 | PE 0604755N & PE 0603755N |
| SPQ 9B | FY 95-96 | PE 0604755N |
| ETC GUN | FY 97-99 | PE 0603795N |
| SDTS | FY 94-02 | PE 65863N |

-2.1.B.2 What amount of test work was performed at your facility (in workyears by functional areas of air vehicles, electronic combat, armament/weapons, other tests, and other) in FY92 & FY93?

No test work was performed in FY 92 or FY 93. The Self Defense Test Ship will not be operational until October 1994.

2.2 UNCONSTRAINED CAPACITY

-2.2.A Unconstrained capacity is the maximum capacity of this facility, assuming manpower and consumable supplies (excluding utilities) are unlimited, but allowing for expected downtime (maintenance, weather, darkness (daylight), holidays, etc.). Provide your response by filling out the Determination of Unconstrained Capacity Form in accordance with the instructions in Appendix A.

-2.2.B Is this capacity limited by the physical characteristics of the facility itself, safety or health considerations, commercial utility availability, etc?

NO

2.3 TECHNICAL RESOURCES

-2.3.A Does the facility have a specified war-time or contingency role established in approved war plans? Yes/no.

NO

-2.3.B Does the facility provide a T&E product or service, without which irreparable harm would be imposed on the test mission of the host installation?

-2.3.B.1 On the test mission of any other activity?

NO

-2.3.B.2 On any other mission deemed critical to the operational effectiveness of the armed forces of the United States?

Without this facility, there is no way to determine the effectiveness of anti-ship cruise missile defense.

SECTION 3: MEASURES OF MERIT

This section relates the measures of merit and the required data to the four criteria that have been established for Military Value. The four military value (MV) criteria are:

CRITERION 1: The current and future mission requirements and the impact on operational readiness of the Department of Defense's total force.

CRITERION 2: The availability and condition of land, facilities and associated airspace at both the existing and potential receiving locations.

CRITERION 3: The ability to accommodate contingency, mobilization, and future total force requirements at both the existing and potential receiving locations.

CRITERION 4: The cost and manpower implications.

3.1 OVER-ARCHING MEASURES OF MERIT

The over-arching measures of merit are listed with accompanying questions (or data requirements) intended to elicit standard information upon which the cross-service analyses can be based, and on which the Joint Cross-Service Groups can base their reviews of the Military Department analyses. Additional specific measures of merit are shown under individual functional areas. The numbers in parentheses () before each measure of merit indicate the BRAC selection criteria for military value.

3.1.A. Interconnectivity (MV I) - Measure of Merit: *Extent of linkage of this facility with other facilities and assessment of single-node failure potential.*

-3.1.A.1 What percentage of total test workload in FY93 involved the real-time or near

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real time exchange of data or control with another facility? List the facilities you interconnect to for test and identify how many are simultaneous activities. Identify these as to whether they are internal and external to the site.

There was no test workload in FY 1993. The Self Defense Test ship will not be in operational service until October 1994. The ship interconnects with Naval Air Warfare Center, Weapons Division, Point Mugu, CA for navigation control, and with nearby Naval Surface Warfare Center Port Hueneme (CA) Division for weapons and sensor control via combination fiber optic and microwave link.

-3.1.A.2 If your facility were to be closed, would there be an impact on other facilities to which you are connected? Yes/no. If yes, explain.

NO

3.1.B Facility Condition (MV II) - Measure of merit: *Current and planned status of the T&E facilities for supporting assigned test missions.*

Fill out the Facility Condition Form in Appendix A in accordance with the instructions.

3.1.C Environmental and Encroachment Carrying Capacity (MV II) - Measure of Merit: *Extent of current and future potential environmental and encroachment impacts on air, land, and sea space for testing.*

PHD DOES NOT OWN OR OPERATE A TEST RANGE BUT RATHER USES THE PACIFIC MISSILE TEST RANGE. CONSEQUENTLY QUESTIONS 3.1.C.1 THROUGH 3.1.C.6 ARE NOT APPLICABLE.

- 3.1.C.1 Do you have limiting (current or future) environmental and/or encroachment characteristics associated with the installation/facility?
Yes/no. If yes, explain.

- 3.1.C.2 How much could workload be increased before this limit would be reached?
Express your answer as a percentage of your current workload.

- 3.1.C.3 Do you currently operate under temporary permits of an environmental

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nature, or voluntary agreements (including treaties) of any sort that deal with the environment? If so, when do they expire? Please describe.

- **3.1.C.4** What is the total population within a 50 mile radius? 100 mile radius? 150 mile radius? 200 mile radius?

- **3.1.C.5** Identify the commercial air/land/sea traffic routes, public use of air/land/sea space, and frequency of use for each that affects or could affect mission accomplishment in your air, land, or sea space.

- **3.1.C.5.A** How many test missions per year are canceled due to commercial or public use?

- **3.1.C.6** What is the number of test missions that have been canceled due to encroachment in each of the last two years?

3.1.D Specialized Test Support Facilities and Targets (MV I) - Measure of Merit:
Extent to which specialized test support facilities and targets are available.

-**3.1.D.1** Do you have specialized facilities are required to support you in conducting your test operations at your facility (e.g. Aerial delivery load build-up facilities; parachute drying towers/packing facilities; paratroop support facilities; specialized fuel storage and delivery systems; mission planning facilities; corrosion control, painting, washing facilities; and specialized maintenance facilities such as avionics intermediate shops)? Yes/no. If yes, please describe.

For all remote controlled operations, Self Defense Test Ship navigation control is performed by Naval Air Warfare Center, Weapons Division (NAWCWPNDIV) Point Mugu, California Range Operations Center; weapon and sensor control is performed from nearby Naval Surface Warfare Center Surface (CA) Division's Surface Weapon Engineering Facility. All manned and unmanned operations at sea will be conducted on NAWCWPNDIV Point Mugu sea range. In addition the deep water port located at the Construction Battalion Center (CBC) is required for berthing of the SDTS.

-3.1.D.2 Are specialized targets required to support this facility? Yes/no. If yes, explain.

No specialized targets are required, however, the Self Defense Test Ship is the only T & E platform that can engage real or simulated anti-ship cruise missiles in realistic firing scenarios at sea.

-3.1.D.2.A Have the specialized targets been validated? Yes/no. If yes, by whom?

When anti-ship cruise missiles were to be used as targets, they will be validated by NAWCWPNDIV, Point Mugu, CA.

3.1.E Expandability (MV III) - Measure of Merit: *Extent to which an installation/facility is able to expand to accommodate additional workload or new missions.*

-3.1.E.1 Other than the expandability inherent in unconstrained capacity, discussed earlier, are there any special aspects of this facility that enhance its ability to expand output within each T&E functional area? Yes/no. If yes, explain.

YES. The Self Defense Test Ship has the capability for temporary installation of armament/weapons systems and sensors such as the AN/SPQ-9B Gun Fire Control Radar and other advanced guns and gun weapons systems.

-3.1.E.1.A Can you accept new T&E workload different from what you are currently performing? Yes/no. If yes, identify by T&E functional area and test type.

Yes. Electronic Combat test and evaluation, developmental engineering, and in-service engineering.

-3.1.E.2 Are airspace, land, and water areas--adjacent to areas under DoD control--available and/or suited for physical expansion to support new missions or increased footprints? Yes/no. If yes, please explain.

N/A

-3.1.E.3 Is the facility equipped to support secure operations? Yes/no. If yes, to what level of classification (Confidential, Secret, Top Secret, Special Access Required)?

Yes. SDTS is currently capable of performing tests to the level of Secret. Through special arrangements the ship can be made capable of accomodating Top Secret classification for special projects.

-3.1.E.4 Are there any capital improvements underway or programmed in the 95 FYDP, that would change your capacity/capability? Yes/no. If yes, explain.

NO

3.1.F Uniqueness (MV I) - Measure of Merit: *Extent to which the facility is one-of-a kind.*

-3.1.F.1 Is this a one-of-a-kind facility within the DoD? Yes/no. If yes, describe.

Yes. This is the only facility within DOD, U. S. Government, and the United States capable of assessing the performance of in-service or developmental weapon and sensor systems against real-world targets and threats, including anti-ship cruise missiles and electronic emitters at sea. There is currently no other way to assess whether a self defense hardkill or softkill system is truly effective against a given threat. The systems currently installed in the ship allow support of guided missiles, launchers, fire control systems, weapon data links, combat system integration of active and passive sensors, electronic warfare systems, and countermeasures.

Land based test sites cannot achieve this assessment for the following reasons:

- no representative ship's motion to influence algorithm computations**
- land based operations do not accurately represent the marine environment for RF multipath, RF ducting, IR background, salt spray, sun angles over water, infrared extinction coefficient**
- safety concerns for local population, employees prevents flying targets/threats in realistic scenarios from a variety of relative bearings**

Weapon and sensor systems are currently tested on active fleet Navy ships. They are unable to evaluate the self defense systems against stringent or real world targets and threats because of safety limitations. Fleet assets for T and E projects are becoming increasingly harder to obtain because of the down-sizing of the U. S.

Navy. Systems undergoing test and evaluation often need months of dedicated time which rarely meshes with fleet deployment schedules.

-3.1.F.1.A Within the US Government? Yes/no. If yes, describe.

SEE -3.1.F.1

-3.1.F.1.B Within the US? Yes/no. If yes, describe.

SEE -3.1.F.1

-3.1.F.2 Are you currently providing support to DoD users outside your Military Department? Yes/no. If yes, indicate percentage of total workload in FY92 and FY93 by Military Department.

No. The Self Defense Test Ship will not be in operational service until October 94.

3.1.G Available Air, Land, and Sea Space (MV II) - Measure of Merit: *Extent to which controlled test ranges satisfy weapon system test requirements.*

-3.1.G.1 How many square miles of air, land, and sea space are available to support test operations?

The NAWCWPNDIV Point Mugu sea-range will support all SDTS test operations. The range covers approximately 2000 square miles of ocean.

-3.1.G.2 Who owns and or controls the land under the restricted airspace you use?

NAWCWPNDIV Point Mugu

-3.1.G.3 How much of this is Restricted Airspace, and what altitude limits are associated with the restricted areas?

N/A

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-3.1.G.4 Do you have special use airspace other than supersonic airspace? Yes/no. If yes, for what types of test (e.g. terrain following radar)? Dimensions? Will it support simultaneous users? Yes/no.

N/A

-3.1.G.5 Is the airspace over land or water? List the number of square miles over each.

N/A

-3.1.G.6 Identify known or projected airspace problems that may prevent accomplishing your mission.

N/A

-3.1.G.7 What is the maximum straight line segment in your airspace in nautical miles?

N/A

-3.1.G.8 What public airspace have you used for overflight of weapons systems in the past? What was the nature of those tests? Do you anticipate being able to use that same public airspace for similar tests in the future? Yes/no.

N/A

3.1.H Geographic/Climatological Features (MV II) - Measure of Merit: *Extent to which types of climatic/geographic conditions represent world-wide operational conditions.*

-3.1.H.1 Describe the topography and ground cover/vegetation within your test airspace (include nap-of-the-earth capability). Identify all of the following that apply: mountains, forest/jungle, cultivated lowland, swamp/riverine, desert, and sea. State the area of each in square miles.

N/A

-3.1.H.2 Are there features of the local geology or soil conditions that enhance or

inhibit any types of test?

The geography of the NAWCWPNDIV Point Mugu sea range near San Nicholas Island provides a unique environment, capable of satisfying all test requirements including land mass background, multi-interval clutter, and both littoral and open ocean warfare environments.

-3.1.H.3 Did you have to go to other geographical locations to satisfy test requirements? Yes/no and explain. If yes, provide as a percent of overall workload per year for the past 8 years.

NO

-3.1.H.4 What is the number of days per year the average temperature is below 32 degrees F? Between 32 and 95 degrees? Above 95 degrees?

Average number of days/year below 32 degrees: 2; between 32 and 95 degrees: 358; above 95 degrees: 5

-3.1.H.5 What is the number of days per year the average relative humidity is below 30%? Between 30 and 80%? Above 80%?

Average number of days/year with relative humidity below 30%: 188; between 30 and 80%: 156 ; above 80%: 21

-3.1.H.6 What is the number of test missions per year (1985 - 1993) canceled due to weather?

N/A

-3.1.H.7 What is the number of test days per year (1985 - 1993) canceled due to weather?

N/A

-3.1.H.8 What is the number of days per year the visibility is less than 1 mile? Between 1 and 3 miles? Greater than 3 miles?

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Average number of days with visibility less than 1 mile: 6; between 1 and 3 miles: 11; over 3 miles: 349

-3.1.H.9 What is the average number of flying days available per year for flight test? Provide historical average from the past eight years.

N/A

-3.1.H.10 What percentage of the time are your test operations restricted due to weather?

The Self Defense Test Ship will not be in operational service until October 94. Anticipate less than 2%.

3.2 AIR VEHICLES

This functional area includes facilities involved in the testing of all air vehicles/subsystems/components whether fixed wing or rotary wing and test of major subsystems (e.g., avionics, engines, and sensors). This includes flight testing and the testing involving pre- and post-flight preparation and processing of the air vehicle. Unmanned air vehicles and cruise missiles are included.

THE SELF DEFENSE TEST SHIP IS NOT INVOLVED IN THE TESTING OF AIR VEHICLES. CONSEQUENTLY QUESTIONS 3.2.A THROUGH 3.2.C.8 ARE NOT APPLICABLE.

3.2.A Supersonic Airspace (MV II) - Measure of Merit: *Extent of range size to support weapon system requirements.*

-3.2.A.1 Do supersonic corridors or areas exist? Yes/no.

-3.2.A.2 Where are they located relative to your airfield?

-3.2.A.3 At what altitude (upper and lower altitude)?

-3.2.A.4 Over land or water? What size and shape (length and width)?

-3.2.A.5 Are there restrictions you must observe to use this space? Yes/no. If yes, explain.

-3.2.A.6 What is the maximum number of simultaneous users?

-3.2.B Airfield and Facility Characteristics (MV II) - Measure of Merit: *Extent of air vehicle infrastructure to support T&E operations.*

-3.2.B.1 Provide a brief description of your airfield and support facilities, to include the following: number and azimuth of runways, elevation, runway length (excluding overrun), overrun length, terminal and/or landing aids, arresting cable (yes/no, type), ramp area (in square feet), construction material (runway and ramps), load capability, and hangar space.

-3.2.B.2 How close and how many emergency runways or airfields are in your area of operation?

-3.2.B.3 Where is your airfield situated relative to working areas (airspace) for supporting test operations?

-3.2.B.4 What makes your airfield unique or at least suited for supporting test operations?

-3.2.B.5 Is there a size, weight, maintenance or mission limitation that would affect test operations? If so, describe the limitation(s). N/A

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-3.2.B.6 Including hangers and ramp space, how many fighter size aircraft could you support? Large multi-engine aircraft? Rotary wing? UAV? Cruise missiles?

-3.2.C Test Operations (MV II) - Measure of Merit: *Extent of T&E operations that the airspace can accommodate.*

-3.2.C.1 What types of air vehicle testing (fixed wing, rotary wing, unmanned vehicles, and cruise missiles) can be supported? (e.g. performance, handling qualities, fatigue life, static, wheels and brakes, physical integration with external stores or avionics)

-3.2.C.2 Do ground support facilities exist for pre-flight checkout or rehearsal of test missions?

-3.2.C.3 What kinds, numbers of aircraft and mix can be supported (manned and unmanned)?

-3.2.C.4 Does UAV and or rotary wing operations pose any limitation on other types of missions? If yes, explain.

-3.2.C.5 What sorts of missions (e.g. air-to-air, air-to-ground and refueling) can be flown within local airspace?

-3.2.C.6 What is the maximum number of simultaneous missions you can support that require telemetry?

-3.2.C.7 What is the largest number of simultaneous test missions you have supported in your airspace?

-3.2.C.8 Identify the number, types, and owners of aircraft at your installation.

3.3 ELECTRONIC COMBAT

This functional area includes facilities involved in the testing of stand-alone electronic combat systems and electronic combat subsystems that are normally integrated into other weapon systems. It includes the testing of systems or subsystems that have as their primary mission threat warning, testing of systems that provide countermeasures in the RF (radio frequency) spectrum against radars and other RF sensors, systems that provide countermeasures that are used against sensors in the electro-optical or infrared spectrum as well as testing of electronic and C3 countermeasures.

THE SELF DEFENSE TEST SHIP IS NOT CURRENTLY PROJECTED TO BE INVOLVED IN THE TESTING OF ELECTRONIC COMBAT SYSTEMS. CONSEQUENTLY QUESTIONS 3.3.A THROUGH 3.3.B.5 ARE NOT APPLICABLE.

3.3.A Threat Environment (MV I) - Measure of Merit: *Extent to which the capability satisfies weapon system requirements.*

-3.3.A.1 What is the number of threats simulated?

-3.3.A.2 How many simultaneous threats can be simulated? What type (e.g. AI, AAA, SAM)? What is maximum signal density? Average density? What power level? What band? Radiated or injected?

-3.3.A.3 Are the threat software models and simulators (software/hardware) validated? Yes/no. If yes, by whom? N/A

-3.3.A.4 Do you conduct open loop testing? Reactive? Closed loop? Yes/no for each.

-3.3.A.5 What is the threat representation (fidelity) and density?

-3.3.A.6 Are you capable of simulating land threats? Sea threats? Combined land/sea

threats? Yes/no. If yes, describe.

-3.3.A.7 What geographic dispersion can be simulated?

-3.3.A.7.A Threat lay down?

-3.3.A.7.B Representative distance?

-3.3.A.8 Are the threats moveable (i.e.dynamic) within a test scenario? relocatable to new scenarios? yes/no

-3.3.A.9 Is the facility interlinked with off-site threats? Yes/no. If yes, how are you linked?

-3.3.A.10 Is there a limit on simultaneous users? Yes/no. If no, explain.

3.3.B Test Article Support (MV II) - Measure of Merit: *Extent to which test support satisfies weapon system test requirements.*

-3.3.B.1 Is there a size, weight, or other limitation on test operations the facility can support? Yes/no. If so, identify the limits and measures to remove them.

-3.3.B.2 What is the number of simultaneous countermeasures that can be evaluated?

-3.3.B.3 What range of spectra can be tested and evaluated?

-3.3.B.4 What are the available spectra?

-3.3.B.5 Do you have a scene generation capability? Yes/no. If yes, describe.

3.4 ARMAMENTS / WEAPONS

This functional area includes facilities involved in the testing of the weapons portion of a weapon system. In those cases where the weapon system is composed almost exclusively of the weapon, it may include system-level and platform integration testing. In other cases, it addresses just the weapon subsystem (e.g., guidance and control, propulsion, warheads, and airframe), while the testing of the weapon system's vehicle is in another functional area.

3.4.A Directed Energy (MV II) - Measure of Merit: *Extent to which the facility satisfies directed energy weapon system test requirements.*

This includes testing of all types of directed energy weapons.

-3.4.A.1 Do you currently test directed energy weapon systems? Yes/no.

NO

If yes, explain. Describe the power source(s) you have available. What is your maximum downrange distance?

3.4.B Rocket / Missile / Bomb Systems (MV II) - Measure of Merit: *Extent capability satisfies weapon system test requirements.*

This includes the testing of all types of rocket, missile, and bomb systems at the system/subsystem/component level, both stand alone and integrated into the launch platform. This includes testing of air-to-air, air-to-surface, and surface-to-air missiles.

-3.4.B.1 Ground Space

-3.4.B.1.A What is the area in square miles of the land and water space which you can use to conduct tests of live rocket, missile, or bomb systems?

52

36,000 square miles of ocean at NAWCWPNDIV Point Mugu sea range. R

-3.4.B.1.B How many separate and distinct land and water test areas are available to conduct tests of live weapons? List them and the size of each in acres.

The NAWCWPNDIV Point Mugu sea range. 36,000 square miles of ocean. R

-3.4.B.1.C What are the maximum ranges (nautical miles) you can test, by type weapon?

| | | |
|--|--------------|----------|
| NATO SeaSparrow Missile System | 10 NM | R |
| Rolling Airframe Missile System | 11 NM | R |
| Phalanx Close-in-Weapon System | 7 NM | R |

3.4.B.2 Test Operations

The self defense test ship will not be operational until October 94. Consequently questions 3.4.b.2.a through 3.4.b.2.d are not applicable.

-3.4.B.2.A For each of your land and water ranges, how many test missions were scheduled in FY92 and FY93 that were required to use safety footprints comparable to those required for the following types of weapons:

--Unguided 2000 pound-class ballistic weapon

---live?

---inert?

--Guided weapon (e.g., GBU-24 class)

---live?

---inert?

--Stand-off weapon (e.g., AGM-130 class)

---live?

---inert?

--Short-range missile (e.g., AIM-9)

---below 5000 feet MSL

---between 5000 and 20,000 feet MSL

---above 20,000 feet MSL

--Long-range missile (e.g., AIM-120)

2000 square miles of ocean at NAWCWPNDIV Point Mugu sea range.

-3.4.B.1.B How many separate and distinct land and water test areas are available to conduct tests of live weapons? List them and the size of each in acres.

The NAWCWPNDIV Point Mugu sea range, 2000 square miles of ocean.

-3.4.B.1.C What are the maximum ranges (nautical miles) you can test, by type weapon?

| | |
|---------------------------------|-------|
| NATO SeaSparrow Missile System | 15 NM |
| Rolling Airframe Missile System | 5 NM |
| Phalanx Close-in-Weapon System | 1 NM |

3.4.B.2 Test Operations

The self defense test ship will not be operational until October 94. Consequently questions 3.4.b.2.a through 3.4.b.2.d are not applicable.

-3.4.B.2.A For each of your land and water ranges, how many test missions were scheduled in FY92 and FY93 that were required to use safety footprints comparable to those required for the following types of weapons:

- Unguided 2000 pound-class ballistic weapon
 - live?
 - inert?
- Guided weapon (e.g., GBU-24 class)
 - live?
 - inert?
- Stand-off weapon (e.g., AGM-130 class)
 - live?
 - inert?
- Short-range missile (e.g., AIM-9)
 - below 5000 feet MSL
 - between 5000 and 20,000 feet MSL
 - above 20,000 feet MSL
- Long-range missile (e.g., AIM-120)

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---below 5000 feet MSL

---between 5000 and 20,000 feet MSL

---above 20,000 feet MSL

-3.4.B.2.B Were flight termination systems required? Yes/no.

-3.4.B.2.C If no missions were scheduled in a category, give the reason(s).

-3.4.B.2.D Were any scheduled missions canceled before the mission, or terminated/aborted during the mission because of encroachments into the safety footprint? Yes/no. If yes, how many per year.

APPENDIX A - DATA FORMS AND INSTRUCTIONS

1. Form, General Information

Facility/Capability: Enter the descriptive title for the facility/capability. Avoid using acronyms and abbreviations unless the title defines the acronym. Example: Guided Weapons Evaluation Facility (GWEF).

Origin date: Enter today's date in the format MM/DD/YY.

Military Department: Allowable entries include "N" for Navy, "A." for Army, and "AF" for Air Force. If the facility/capability is managed by an "Other Government Agency" (e.g. ARPA, DNA, ACC) enter the appropriate Agency name.

Organization/Activity: Enter the name (with acronym) for the field activity. Example: White Sands Missile Range (WSMR).

Location: Enter the location where the facility/capability is physically located (installation, city or other common name).

Unit Identification Code (UIC): Enter the UIC.

T&E Functional Area: Enter the single area this facility/capability primarily supports: Air Vehicles, Armament/Weapons, Electronic Combat, or Other.

T&E Test Facility Category: Enter the facility category based on the following definitions:

(1) **Digital Models and Computer Simulations (DMS)**- Those models and simulations which either provide a simulated test environment or representations of

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systems, components, and platforms. DMSs are used throughout the development and test process, as analytical tools, as well as tools to drive or control electronic and other environmental stimuli provided, the test articles on Open Air Ranges (OARs), Installed Systems Test Facilities (ISTFs), Hardware in the Loop Test Facilities (HITLs), Integration Laboratories (ILs), and Measurement Facilities (MFs).

(2) Measurement Facilities (MF)- Those facilities used to provide a specialized test environment and/or data collection capability. MFs may be ground based laboratories or open air facilities (often located at or part of OARs).

(3) Integration Laboratories (IL)- Those facilities designed to support the integration and test of various systems and components that will be installed in a host platform. ILs are generally platform specific or unique. However, the simulated stimuli and data collection capabilities required by ILs are often common with those required by HITLS and ISTFs.

(4) Hardware-In-The-Loop (HITL)- Those facilities which provide capabilities to test systems or their components at various stages of development (e.g., brassboard, breadboard, prototype, preproduction, production). HITLs provide stimuli and data collection capabilities to permit test and evaluation of a system/component independent of the host platform.

(5) Installed Systems Test Facilities (ISTF)- Ground based test facilities (usually chambers) that allow test of systems and weapons as installed in the combat platform. ISTFs provide simulated test environments and stimuli and data collection capabilities for the test article(s).

(6) Open Air Ranges (OAR)- Those facilities which consist of controlled or restricted areas to support the test of platforms/systems in a real world, dynamic environment. They are instrumented with data collection, time-space-position information, positive control of test participants, and real or simulated targets and threats as appropriate.

Percentage Use: Enter percentage of time, based on hours, the facility is used to

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support each of the following (total must sum to 100%):

(1) Test and Evaluation (T&E)- Any facility that is accountable to Military Department and/or OSD T&E management oversight. Operation and sustainment of these facilities are typically funded from 6.5 or procurement program elements. Facilities in this category were developed to support developmental and/or operational test and evaluation and focus on the evaluation of system safety, technical performance, environmental (climatic, electromagnetic, etc.) effects, sustainability and operational suitability, maturity of production processes, and compliance with system specifications and quality standards.

(2) Science & Technology (S&T)- Any facility that is accountable to Military Department and/or OSD S&T management oversight. Operation and sustainment of these facilities are typically funded from 6.1, 6.2, and 6.3a program elements. Facilities in this category were developed to support experimental studies leading to enhanced understanding of new phenomena for new military applications as well as efforts directed toward the solution of problems in the physical, behavioral, and social sciences.

(3) Developmental Engineering (DE)- Any facility that is accountable to Military Department and/or OSD Research, Development and Engineering or acquisition management oversight. Operation and sustainment of these facilities are typically funded from 6.3b through 6.4 or procurement program elements. Facilities in this category were developed to support proof-of-principle and engineering development of systems.

(4) In-Service Engineering (IE)- Any facility that is accountable to Military Department and/or OSD logistics management oversight. Operation and sustainment of these facilities are typically funded from 6.7 or Operations and Maintenance (O&M) program elements. Facilities in this category were developed to support the maintenance facilities. These facilities tend to be system peculiar capabilities to conduct checkouts of the system/subsystems after they have undergone a modification, upgrade or improvement.

(5) Training and Doctrine (T&D)- Any facility that is accountable to Military Department and/or OSD training and doctrine management oversight. Operation and

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sustainment of these facilities are typically funded from O&M program elements. Facilities in this category were developed to support the training and proficiency of operational forces and/or the development of new tactics, doctrine or force structure concepts.

(6) Other - Any work outside the above.

Breakout by T&E Functional Area: For each of the above categories (T&E, S&T, DE, IE, T&D, Other) enter percentage of time facility is used to support Air Vehicles, Armament/Weapons, Electronic Combat, or Other. Total of breakout areas must sum to top line percentage.

2. Form, Technical Information

Facility Description: Enter a brief description of the facility, including the mission statement.

Interconnectivity/Multi-Use of Facility: Describe any linking/interconnectivity with other T&E facilities. Include physical and/or data linkages (bandwidth, data rate, etc.). Describe any unique characteristics or multiple use of the resource (e.g., operating by rotating crew, availability of resource dependent on ..., equipment will be obsolete by ..., etc.)

Type Tests Supported: Enter specific types of tests accomplished by the Facility (e.g., electromagnetic compatibility, radar cross section, missile miss distance, air-to-air radar simulation, etc).

Summary of Technical Capabilities: Describe technical capabilities at your facility to include:

Instrumentation/Assets: Enter instrumentation and other assets (e.g., jammers, target generators, recording equipment, computer support equipment) associated with the resource.

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Provide fact sheets, not to exceed two pages.

Keywords: Enter any keywords (spelled-out with acronyms) associated with functions and capabilities of the facility (e.g., electromagnetic interference/electromagnetic compatibility (EMI/EMC), anechoic chamber, radar cross section (RCS)).

3. Form, Additional Information

Additional Information Form. Enter facility name. Provide personnel numbers for FY93, FY94, and each year in the FY95 FYDP broken out according to officers, enlisted, civilians and contractors. Enter total area square footage of indoor space, test area square footage of indoor space used for T&E purposes, and list office space square footage separately. Tonnage of equipment is the weight of all equipment associated with this facility. Volume of equipment is the volume of all equipment associated with this facility. Annual maintenance cost is self explanatory. Moving costs are estimates for packing equipment at the losing site and reassembly, calibration, etc at the receiving site, not including transportation costs. Capital equipment investments are the current improvement and modernization funds as well as any programs funds earmarked for equipment purchase.

4. Form, Facility Condition

Facility/Capability: Enter the descriptive title for the facility/capability.

Age: Indicate the age of the facility/capability as of the date on the General Information Form.

Replacement Value: Enter the replacement value for the facility/capability. Indicate whether this includes the replacement cost for the equipment.

Maintenance and Repair Backlog: Enter the total dollar amount of the backlog for maintenance and repair items.

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Date of Last Upgrade: Date of the last major upgrade to the facility.

Nature of Last Upgrade: Describe the purpose and capability increase from the last major upgrade. Indicate the date this upgrade became available for use.

Major Upgrades Programmed: Enter information on each of the major upgrades that are programmed. Indicate the total programmed amount and provide a summary description of the upgrade.

5. Form, Historical Workload

Use this form to report the workload performed at this facility each year from FY86-93.

Facility/Capability Title: Enter the descriptive title for the facility/capability. Avoid using acronyms and abbreviations unless the title defines the acronym. Example: Guided Weapons Evaluation Facility (GWEF).

T&E Functional Area: For each of these functional areas (Air Vehicles, Armament/Weapons, Electronic Combat, Other Test, and Other), enter direct labor hours, test hours, and/or missions for FY86 through FY93. For open air ranges involving flight testing, report test hours and missions. For all other T&E facilities direct labor hours and test hours must be reported; if available, missions must be reported. If an estimation of test hours based on direct labor hours is necessary, refer to the instructions for Determination of Unconstrained Capacity on page 28.

6. Form, Determination of Unconstrained Capacity

Annual Hours of Downtime, 1: If the facility were required to operate continuously for 24 hours a day, seven days a week, 52 weeks a year, determine the number of hours per day the facility can reasonably operate if it is not constrained by personnel strength? Consider your facilities, equipment, and instrumentation fixed at current levels.

1. Add up the total hours of downtime per year for maintenance, weather, darkness

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(daylight), holidays, etc. Enter in line 1.

Average Downtime Per Day, 2: Divide line 1 by 365 to get the average downtime per day. Fill in at line 2.

Average Hours Available Per Day, 3: Subtract line 2 from 24 hours to get the average number of hours per day the facility is available for test. Fill in at line 3.

Analyze your historic workload mix to determine the average number and type of tests that have been run simultaneously at your facility. Determine the maximum number of tests that can be run simultaneously if there is no limit to personnel authorizations. Enter the following data from your analysis

Test Types, 4: Enter in column 4 the name of the type of test.

Tests at One Time, 5: List the number of each type of test that can be conducted simultaneously in column 5.

Workload Per Test

Per Facility Hour, 6: List the workload (reported in units as follows: For open air range flight testing, report workload in flight hours and numbers of missions. For all other test facility categories, including open air range other than flight testing, report workload in direct labor hours) represented by each hour the test is run. Do this at line 6.

From the historic workload analysis, determine the average workload per facility hour represented by the average or "typical" test. In the row titled "TYPICAL", in column 5, enter the number of these "typical" tests that can be run in addition to those already listed above. Enter the workload per "typical" test per facility hour in column 6. To estimate test hours from direct labor hours for the Historic Workload Form, divide the facility workload by this number (the number of direct labor hours per "typical" test per facility hour) and enter in the test hour block on the Historic Workload Form.

Workload Per

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Facility Hour, 7: Multiply column 5 by column 6. Enter in column 7. Total column 7.

Unconstrained

Capacity Per Day, 8: Multiply the total from column 7 by line 3 to get the unconstrained capacity per average day. Enter in line 8.

Annual

Unconstrained

Capacity, 9: Multiply line 8 by 365 to get the unconstrained capacity per year for the facility. Enter on line 9.

COMBAT

GENERAL INFORMATION

Facility/Capability Title: Integrated Combat Systems Test Facility, Port Hueneme Division

Origin Date: 042694

Service: Navy Organization/Activity: NSWC PHD CODE 4L00 Location: Pt. Loma CA

T&E Functional Area: Other

UIC = 63394

T&E Test Facility Category Integration Laboratory

| | <u>T&E</u> | <u>S&T</u> | <u>D&E</u> | <u>IE</u> | <u>T&D</u> | <u>OTHER</u> |
|-------------------------------------|----------------|----------------|----------------|-----------|----------------|--------------|
| PERCENTAGE USE: | <u>65</u> | — | — | <u>35</u> | — | — |
| BREAKOUT BY T&E FUNCTIONAL AREA (%) | | | | | | |
| Air Vehicles | — | — | — | — | — | — |
| Armament/Weapons | — | — | — | — | — | — |
| EC | <u>3</u> | — | — | <u>1</u> | — | — |
| Other | <u>62</u> | — | — | <u>34</u> | — | — |

Total in Breakout Must Equal "Percentage Use" On First Line

63

TECHNICAL INFORMATION

Facility/Capability Title: Integrated Combat Systems Test Facility, Port Hueneme CA

Facility Description; Including mission statement: The facility consists of a 16K square foot TEMPEST enclosed lab that contains 800 pieces of military computers, displays, peripherals, special equipment and simulators/emulators. Mission - Provide engineering/technical support for test and development of command and control systems; land based reliability testing, integration and certification of surface ship combat systems computer program networks prior to initial operation and for in-service systems.

Interconnectivity/Mult-Use of T&E Facility:

Physically located in the NRaD C4I building, Pt. Loma, CA. Connected to NRaD C4I systems by Fiber Optic Data Link, High Speed Digital Switch and LANs. Users of our facility include Naval Research and Development(NRaD), Naval Electronic Systems Engineering Activity (NESEA), Naval Tactical Systems Interoperability Center(NTSIC), Naval Air Development Center (NADC), the Fleet and other PHD NSWC departments.

Type of Test Supported:

Combat System Integration Test, Developmental Engineering Test, Product Acceptance Test, and Operator Training Test.

Summary of Technical Capabilities: See attached paper

Keywords: See attached paper

TECHNICAL CAPABILITIES AND KEYWORDS

PHD NSWC maintains a capability in systems engineering and software engineering to support the NAVSEA Combat System Software Testing Program for all non-Aegis ships. PHD NSWC brings together ALL the subsystem computer programs that are elements of a networked Combat System and performs a series of tests to ensure proper operation. The software testing approach has evolved into a methodology that enables PHD to validate structured software designs as well as Rapid-Prototype or "Spiral" designs. PHD is an active member of NAVSEA's Combat System Software Management Group that manages the evolving architecture and testing approaches for combat system software. PHD NSWC averages four/five major Combat System Integration Tests (CSITs) per year. Ship classes supported include CV/CVN, CG 16/26, CGN 36/38, DDG 993, DD 963, FFG-7, and LHD-1. The scope and length of the CSIT depend on: individual subsystem program maturity, whether it has previously been subjected to a CSIT, and combat system complexity.

PHD NSWC Test and Analysis Department maintains, at its Point Loma site, the capability to functionally replicate the following systems.

ACDS - Advanced Combat Direction System

Provides a capability to monitor the air, surface, and subsurface environment, including ownship sensor and weapon control and remote weapon control.

TPX-42 - Carrier/Amphibious Air Traffic Control Center/Direct Altitude Indicating Readout

Provides air traffic control information to the combat system. In addition to aircraft launch, handover, and recovery, provides radar and IFF information via interface with ACDS.

IADT - Integrated Automatic Detection and Tracking System (AN/SYS-2)

Provides integrated multi-sensor, i.e., AN/SPS-48E and AN/SPS-49, track reports and updates, and radar status information to ACDS. It also provides a radar alignment capability.

ASWM - Anti-Submarine Warfare Module

Provides ASW tactical personnel with the capability to monitor air, surface, and subsurface acoustic environment. It also provides ASW aircraft mission replay using magnetic media.

TAS - Target Acquisition System

Provides track data to ACDS and to NSSMS. It also controls the NSSMS via the TAS/NSSMS interface, and forwards ACDS initiated engagements to NSSMS.

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NSSMS - NATO Sea Sparrow Missile System

Provides missile engageability data, missile selection, firing data, and fire control system (FCS) modes to TAS.

AutoID - Automatic Identification System

Provides the combat system with an automatic track identification capability using track kinematic data, operator defined doctrine, and track Identification Friend or Foe (IFF) replies.

LAMPS - Light Airborne Multi-Purpose System

Provides an acoustic and electronic surveillance capability to the combat system at extended ranges. It also provides engagement capability against surface and subsurface threats.

VLS - Vertical Launching System

Provides an anti-surface and anti-subsurface missile launching capability to the combat system. It processes engagements from the ASWCS or the Tomahawk Weapon Control System (TWCS).

ASWCS - Anti-Submarine Warfare Control System

Provides the control of ASW sensors and weapons, including ACDS initiated orders.

UPX - Interrogator System

The Interrogator System is a centralized AIMS Mk XII IFF system that provides a capability to distinguish friendly platforms in a multi-target environment.

GFCS - Gun Fire Control System

Provides air and surface targeting data to ACDS and controls the gun mount during gun engagements.

NTCS-A - Navy Tactical Combat System - Afloat

Provides Over The Horizon (OTH) non-real time track information, Tactical Decision Aids (TDAs) and landmass/political maps to the combat system via interface to ACDS.

WDS - Weapon Direction System

Provides control of the TERRIER/TARTAR fire control radars and launchers. It also provides the combat system with missile engageability data, engagement scheduling, and evaluation of engagement success.

TIPS - Tactical Information Processing System

Provides support for tactical (e.g., targeting data) and administrative (e.g., accounting data) functions via a general purpose data storage, processing, and retrieval system.

HSDS - High Speed Digital Switching and Conversion System

The HSDS interconnects equipment by converting the MILSPEC parallel data channel to serial, switching the serial data to the correct destination and reconvertng the serial data to parallel. Multiple configurations are connected/disconnected rapidly to establish/modify test configurations.

CEESIM - Combat Electromagnetic Environment Simulator

Comprised of hardware and software to provide multiple threat emitters for detection by the SLQ-32 EW System.

SLQ-32 - Electronic Support Measures System

A computer controlled suite of EW equipment for the detection of radar emitters.

RVS - Radar Video Simulator

Receives video generation commands from the CSS and provides video, azimuth and trigger data output in simulation of radar and IFF video.

ATWCS/TWCS - Advanced/Tomahawk Weapon Control System

Comprises two functional groups, Track and Launch. Track provides for data and receipt processing, target evaluation and engagement planning. Launch Control provides for implementation of engagement plans and monitoring of missile launches.

CSS - Combat System Simulation

Provides a centrally controlled, integrated simulation environment for land based testing of non-AEGIS surface ship combat systems. With its simulation components, Interface Simulations (INTSIMs) and Satellite Simulations (SATSIMs) it provides the specific stimulus for elements of a combat system not available at a land based test site. SATSIMs are normally derivatives of existing simulations originally developed to support a very high fidelity, total wrap around interface environment for operational subsystems, and include:

SYS-2
LAMPS MK III

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Anti Submarine Warfare Combat System (ASWCS)
Underwater Fire Control System (UFCS) MK 116
Vertical Launch System (VLS)
WSN-5
MK 86 Gun Fire Control System (GFCS)
MK 23 TAS
NATO Aircraft Carrier Satellite Simulation (NCVSS)
WDS MK 14
NATO SEASPARROW
SLQ-32 Tactical Electronic Warfare Evaluation System (TEWES)

In addition PHD NSWC has the following tools available to facilitate the integration and testing of Combat system software.

MTASS - Machine Transferrable Support System

The Program Generation Software program currently used by ICSTF PHD for the development, Life Cycle Maintenance and Configuration Management of the ICSTF PHD simulation software (CSS).

IMS - Interface Monitoring System

Data Extraction/Reduction tool which allows passive collection of up to 10 combat system interface channels concurrently.

SMART - Shipboard Multipurpose Analysis and Reduction Tool

Collection of data reduction/data analysis tools originally written for the HP-9020C minicomputer and now hosted in a PC. Supports data filtering and rapid data analysis

SDS - Scenario Development System

PC-based scenario development and playback tool for Combat System Simulation (CSS). Enables user to build large scripts quickly and accurately. Builds 7 track scenario mag tapes.

I²T² - Interface Injection Test Tool

UYK-44 hosted tool which allows tester to inject and monitor interface errors between two combat system computers. Allows evaluation of interface error recovery procedures.

ADDITIONAL INFORMATION

Facility/Capability Title: Integrated Combat Systems Test Facility, Port Hueneme Division

PERSONNEL

| | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|--------------|------------|------------|------------|------------|------------|------------|------------|
| Officer | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Enlisted | 15 | 9 | 6 | 6 | 6 | 6 | 6 |
| Civilian | 50 | 57 | 55 | 55 | 55 | 55 | 55 |
| Contractor | 100 | 73 | 70 | 68 | 68 | 68 | 68 |
| TOTAL | 167 | 141 | 133 | 131 | 131 | 131 | 131 |

Total Square Footage: 33,244
 Test Area Square Footage: 16,544
 Tonnage of Equipment: 80
 Annual Maintenance Cost: \$1,900,000

Office Space Square Footage: 16,700
 Volume of Equipment: 360,000 Ft.³
 Estimated Moving Cost: \$4,021,000

CAPITAL EQUIPMENT INVESTMENT

| | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|--|-------|-------|-------|-------|-------|-------|-------|
| | 3432K | 4513K | 1900K | 5200K | 4200K | 2500K | 3000K |

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FACILITY CONDITION

FACILITY/CAPABILITY TITLE: Integrated Combat Systems Test Facility, Port Hueneme Division

AGE: 17 years REPLACEMENT VALUE: \$12,000K for MILCON and \$100,000K for equipment

MAINTENANCE AND REPAIR BACKLOG: None

DATE OF LAST UPGRADE: FY 77 for building and FY 88 for equipment

NATURE OF LAST UPGRADE: Installation of military computers (AN/UYK-43/44s) and displays (AN/UYK-21) to support the Advanced Combat Direction System Block 0 development and integration tests.

MAJOR UPGRADES PROGRAMMED

1. UPGRADE TITLE: Co-operative Engagement Capability (CEC)

TOTAL PROGRAMMED AMOUNT: \$1,100K equipment

SUMMARY DESCRIPTION: Three ship CEC equipment suite with simulations

2. UPGRADE TITLE: CVN-76 and LPD-17 Total Ship Integration Test (TSIT)

TOTAL PROGRAMMED AMOUNT: \$6,000K

SUMMARY DESCRIPTION: Procure/install Fiber Optic LANs/Backbone, T-3 line from Pt. Loma, Ca. to Wallops Island, Va., Asynchronous Transfer Switches, Advance Display Systems, VME based systems and instrumentation. Develop necessary simulation.

HISTORICAL WORKLOAD

FACILITY/CAPABILITY TITLE: Integrated Combat Systems Test Facility, Port Hueneme Division

| T&E FUNCTIONAL AREA | | FISCAL YEAR | | | | | | | |
|---------------------|--------------|-------------|--------|--------|--------|--------|--------|--------|--------|
| | | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 |
| AIR VEHICLES | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |
| EC | DIRECT LABOR | 3,060 | 3,060 | 3,060 | 3,204 | 3,204 | 3,560 | 3,560 | 3,560 |
| | TEST HOURS | 173 | 173 | 173 | 228 | 228 | 255 | 255 | 255 |
| | MISSIONS | | | | | | | | |
| ARMAMENT/ WEAPONS | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |
| OTHER T&E | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |
| OTHER | DIRECT LABOR | 73,480 | 73,480 | 73,480 | 76,890 | 76,890 | 85,440 | 85,440 | 85,440 |
| | TEST HOURS | 8,477 | 8,477 | 8,477 | 11,172 | 11,172 | 12,520 | 12,520 | 12,520 |
| | MISSIONS | | | | | | | | |

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DETERMINATION OF UNCONSTRAINED CAPACITY

FACILITY/CAPABILITY TITLE: Integrated Combat Systems Test Facility, Port Hueneme Division

| | |
|---|---------------|
| ANNUAL HOURS OF DOWNTIME | 1 <u>1822</u> |
| AVERAGE DOWNTIME PER DAY (LINE 1 ÷ 365) | 2 <u>5</u> |
| AVERAGE HOURS AVAILABLE PER DAY (24 - LINE 2) | 3 <u>19</u> |

| TEST TYPES | TESTS AT ONE TIME | WORKLOAD PER TEST PER FACILITY HOUR | WORKLOAD PER FACILITY HOUR | UNCONSTRAINED CAPACITY PER DAY (LINE 3 X TOTAL Σ) |
|------------------|----------------------|--|-------------------------------|---|
| 4 | 5 | 6 | 7 | 8 |
| <u>CSIT</u> | <u>2</u> | <u>6.8</u> | <u>13.6</u> | <u>387.6</u> |
| <u>DEV</u> | <u>1</u> | <u>6.8</u> | <u>6.8</u> | |
| _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| <u>"TYPICAL"</u> | <u>3</u> | <u>13.6</u> | _____ | |
| | | | TOTAL Σ | <u>141,474</u> |
| | | | | <u>20.4</u> |

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GENERAL INFORMATION

Facility/Capability Title: Self Defense Test Ship (SDTS)Origin Date: 05/13/94Service: N Organization/Activity: Port Hueneme Division, Naval Surface Warfare Center Location: Port Hueneme, CAT&E Functional Area: Armament/WeaponsUIC = 63394T&E Test Facility Category Installed Systems Test Facility (ISTF)

| | <u>T&E</u> | <u>S&T</u> | <u>D&E</u> | <u>IE</u> | <u>T&D</u> | <u>OTHER</u> |
|-------------------------------------|----------------|----------------|----------------|------------|----------------|--------------|
| PERCENTAGE USE: | — | — | <u>50%</u> | <u>50%</u> | — | — |
| BREAKOUT BY T&E FUNCTIONAL AREA (%) | | | | | | |
| Air Vehicles | — | — | — | — | — | — |
| Armament/Weapons | — | — | <u>50%</u> | <u>50%</u> | — | — |
| EC | — | — | — | — | — | — |
| Other | — | — | — | — | — | — |

Total in Breakout Must Equal "Percentage Use" On First Line

TECHNICAL INFORMATION

Facility/Capability Title: Self Defense Test Ship (SDTS)

Facility Description; Including mission statement: The mission of the SDTS(former USS DECATUR DDG-31) is to provide a fully remote controlled platform for at-sea evaluation of weapon and sensor systems against a wide variety of stringent targets and threats in realistic scenarios without the safety constraints required for manned ships. Targets and threats include combat aircraft, anti-ship cruise missiles, and surface craft. The SDTS can be operated remotely or manned on the Pacific Missile Test Range; ship control/navigation) will be from Naval Air Warfare Center, Weapons Division, Pt. Mugu, CA; Weapons and sensors will be controlled from nearby Naval Surface Warfare Center, Port Hueneme (CA) Division's Surface Weapons Engineering Facility. The Combat Systems suite includes MK 23 Target Acquisition System (TAS), NATO Seasparrow Missile System, (NSSMS)and the AN/SLQ-32 Electronic Support Measures System. Permanent installation of the Phalanx Close-in Weapon System (CIWS) and Rolling Airframe Missile (RAM) System are planned for FY 95. Other systems, such as the AN/SPQ-9B Gun Fire Control Radar may be temporarily installed for specific tests, then removed.

Interconnectivity/Multi-Use of T&E Facility: Weapons systems can be operated remotely from the Surface Warfare Engineering Facility at Naval Surface Warfare Center, Port Hueneme California via a combination fiber optic and RF Link, pierside or at sea.

Type of Test Supported: At-sea evaluation of weapon and sensor system performance against real-world threats and targets in realistic scenarios without the safety constraints required for manned ships or shore-based test site; real world threats include anti-ship cruise missiles (ASCM), combat aircraft, electronic jamming equipment, and surface craft; installation and assessment of software and hardware modifications in installed shipboard systems in an at-sea environment.

Summary of Technical Capabilities: The Self Defense Test ship is capable of detecting, acquiring, and engaging real world threats and controlled targets employing in-service U.S. Navy weapon and sensors. It also has the capability for temporary installation of developmental systems for at sea test and evaluation.

Keywords: Self Defense Test Ship (SDTS), NATO SEASPARROW Missile System (NSSMS), Rolling Airframe Missile (RAM), Close-In Weapons System (CIWS), Electronic Support Measures System (AN/SLQ-32), Surface Warfare Engineering Facility (SWEF), Target Acquisition System (TAS), Anti-Ship Cruise Missile (ASCM)

ADDITIONAL INFORMATION

Facility/Capability Title: **Self Defense Test Ship**

| PERSONNEL | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|------------------|----------|-----------|-------------|-------------|-----------|-------------|-------------|
| Officer(Note 1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Enlisted | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Civilian | 0 | 3 | 4 | 4 | 3.5 | 4 | 4 |
| Contractor | 0 | 9 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| | | | | | | | |
| TOTAL | 0 | 12 | 10.5 | 10.5 | 10 | 10.5 | 10.5 |

Total Square Footage: N/A (NOTE 2) Office Space Square Footage: 10%
Test Area Square Footage: 25% Volume of Equipment: 80,000 Cubic FT
Tonnage of Equipment: 4000 Estimated Moving Cost:
Annual Maintenance Cost: \$2.7M Self propelled - \$140.00/mile; Under tow, unmanned - \$43.00/mile;
Under tow, manned - \$183.00/mile (NOTE 3)

NOTES:

(1) The military officer assignment is a collateral duty to the Naval Surface Warfare Center, Port Hueneme Divison Code 4LOO Department Officer Billet.

(2) The SDTS is a converted DECATUR class Destroyer, 418 feet long, 44 feet of beam, displacing 4000 tons, with a draft of 20 feet. (3) Requires deep water port.

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19 AUG 94

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ADDITIONAL INFORMATION

Facility/Capability Title: Self Defense Test Ship

| PERSONNEL | FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Officer(Note 1) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Enlisted | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| Civilian | 1 | 2 | 3 | 3 | 3 | 3 | 3 |
| Contractor | 12 | 15 | 15 | 15 | 15 | 15 | 15 |
| | | | | | | | |
| TOTAL | 16 | 21 | 22 | 22 | 22 | 22 | 22 |

Total Square Footage: N/A (NOTE 2)

Test Area Square Footage: 25%

Tonnage of Equipment: 4000

Annual Maintenance Cost: \$2.7M

Office Space Square Footage: 10%

Volume of Equipment: 80,000 Cubic FT

Estimated Moving Cost:

Self propelled - \$140.00/mile; Under tow, unmanned - \$43.00/mile;

Under tow, manned - \$183.00/mile (NOTE 3)

NOTES:

(1) The military officer assignment is a collateral duty to the Naval Surface Warfare Center, Port Hueneme Divison Code 4LOO Department Officer Billet.

(2) The SDTS is a converted DECATUR class Destroyer, 418 feet long, 44 feet of beam, displacing 4000 tons, with a draft of 20 feet.

(3) Requires deep water port.

ADDITIONAL INFORMATION (Continued)

CAPITAL EQUIPMENT INVESTMENT

| FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|-------|-------|-------|-------|-------|-------|-------|
| \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

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ADDITIONAL INFORMATION (Continued)

CAPITAL EQUIPMENT INVESTMENT

| FY 93 | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|--------|-------|--------|-------|-------|-------|-------|
| \$8.0M | \$24M | \$580K | \$0 | \$0 | \$0 | \$0 |

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FACILITY CONDITION

FACILITY/CAPABILITY TITLE: Self Defense Test ShipAGE: 1 year

REPLACEMENT VALUE: \$32M

Note: The Self Defense Test Ship is a converted DECATUR Class Destroyer. The Hull was completed in 1956, mothballed in 1981, reactivated in 1993. Replacement value reflects cost of ship conversion and installed weapon and sensor systems only.

MAINTENANCE AND REPAIR BACKLOG: NONEDATE OF LAST UPGRADE: Currently undergoing reactivation for T and E operations.

NATURE OF LAST UPGRADE: Replace ship's propulsion system and add new remote control navigation system. Install basic combat systems suite consisting of NATO Seasparrow Missile System (NSSMS), AN/SLO-32 Electronic Support Measures System, and Tracking and Acquisition System (TAS)MK 23 installed. The ship will be in operational service in October 94

MAJOR UPGRADES PROGRAMMED

Note: Temporary installation of various weapon and sensor systems for at-sea evaluation is planned beginning in FY 95. These temporary installations will be funded by individual system programs.

1. UPGRADE TITLE: Rolling Airframe Missile (RAM) InstallationTOTAL PROGRAMMED AMOUNT: \$200KSUMMARY DESCRIPTION: Modifies ship to prepare for installation of RAM system to permanent weapon system configuration.

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FACILITY CONDITION (Continued)

FACILITY/CAPABILITY TITLE: Self Defense Test Ship

MAJOR UPGRADES PROGRAMMED

2. UPGRADE TITLE: Close In Weapons System (CIWS) Installation

TOTAL PROGRAMMED AMOUNT: \$300K

SUMMARY DESCRIPTION: Modifies ship to prepare for installation of Phalanx Close in Weapon System (CIWS)

3. UPGRADE TITLE: Ship Self Defense System (SSDS) Installation

TOTAL PROGRAMMED AMOUNT: \$2.4M

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SUMMARY DESCRIPTION: Modifies ship to prepare for installation of Ship Self Defense System (SSDS) Mk 1

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19 AUG 94

FACILITY CONDITION (Continued)

FACILITY/CAPABILITY TITLE: Self Defense Test Ship

MAJOR UPGRADES PROGRAMMED

2. UPGRADE TITLE: Close In Weapons System (CIWS) Installation

TOTAL PROGRAMMED AMOUNT: \$300K

SUMMARY DESCRIPTION: Modifies ship to prepare for installation of Phalanx Close in Weapon System (CIWS)

3. UPGRADE TITLE: Ship Self Defense System (SSDS) Installation

TOTAL PROGRAMMED AMOUNT: \$80K

SUMMARY DESCRIPTION: Modifies ship to prepare for installation of Ship Self Defense System (SSDS) Mk 1

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HISTORICAL WORKLOAD

 FACILITY/CAPABILITY TITLE: Self Defense Test Ship (SDTS)

| T&E FUNCTIONAL AREA | | FISCAL YEAR | | | | | | | |
|---------------------|--------------|-------------|----|----|----|----|----|----|------|
| | | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 |
| AIR VEHICLES | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |
| EC | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |
| ARMAMENT/ WEAPONS | DIRECT LABOR | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 500* |
| | TEST HOURS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | MISSIONS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER T& E | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |
| OTHER | DIRECT LABOR | | | | | | | | |
| | TEST HOURS | | | | | | | | |
| | MISSIONS | | | | | | | | |

*represents direct in-house labor hours required to complete ship conversion and reactivation.

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DETERMINATION OF UNCONSTRAINED CAPACITY

FACILITY/CAPABILITY TITLE: Self Defense Test Ship (SDTS)

Note: Since the ship will not be in operational service until October 94, there is no historical basis for determining unconstrained capacity as specified in this table. However, it is projected that the ship will have the capability of operating 24 hours a day, 365 days a year less 20 days a year for maintenance downtime. Current projected usage is 260 days a year, with 20 days a quarter at sea.

ANNUAL HOURS OF DOWNTIME

1 _____

AVERAGE DOWNTIME PER DAY (LINE 1 ÷ 365)

2 _____

AVERAGE HOURS AVAILABLE PER DAY (24 - LINE 2)

3 _____

| TEST TYPES | TESTS AT ONE TIME | WORKLOAD PER TEST PER FACILITY HOUR | WORKLOAD PER FACILITY HOUR | UNCONSTRAINED CAPACITY PER DAY (LINE 3 X TOTAL Σ) |
|------------------|-------------------|-------------------------------------|----------------------------|---|
| 4 | 5 | 6 | 7 | 8 _____ |
| _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| _____ | _____ | _____ | _____ | |
| <u>"TYPICAL"</u> | _____ | _____ | _____ | |
| | | | TOTAL Σ _____ | ANNUAL UNCONSTRAINED CAPACITY |
| | | | | 9 _____ |

08

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.

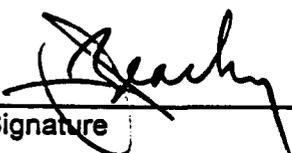
I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

Capt. John Scott Beachy
NAME (Please type or print)

Commanding Officer
Title

PHD NSWV
Activity



Signature
23 MAY 94

Date

REQUESTS FOR CLARIFICATION
From the Base Structure Analysis Team (BSAT)

Control #: EC-02A

Date sent: 8 September 1994

To: MR. Bill Cochmano

Service: Navy

Site: Naval Surface Warfare Centers

Voice: (703) 602-0632

Fax: (703) 602-8474

Facility/Capability: Various

Page: Various

CLARIFICATION/CORRECTION REQUESTED for Data Call #13. Various Questions

Further clarification is required on reported facilities/capabilities for Electronic Combat (Measurement Facilities, Hardware-In-The-Loop, Installed-Systems-Test-Facilities, and Open Air Ranges) and for Armament/Weapons (Measurement Facilities, Hardware-In-The-Loop, and installed-Systems-Test-Facilities). Please direct each of your subordinate activities to fill out and submit the attached forms (Forms #1, #2 and/or #3) for each facility/capability that they reported in their response to Data Call #13 (e.g. a separate Form #1 should be completed for each Measurement Facility reported that performed work in the Electronic Combat functional area, a separate Form #2 should be completed for each Hardware-In-The-Loop facility that performed work in the Armament/Weapons functional area, etc.) Provide a YES or NO response for each question on each form.

CDR Mark B. Samuels, CBC, USN
(703) 681-0481, or (703) 578-5750

NOTE: This information is needed urgently. Request you respond with clarification comments (below) or corrected page(s) by 12 September 1994. FAX a preliminary response directly to the T&B Joint Cross-Service Working Group @ (703) 578-6592. Then, send your official response, properly certified, through your chain of command for certification and further forwarding to the BSAT.

Reply: SEE ATTACHED SHEET

Dr. Robert A. Bland

Name

4R01

Code

(805) 982-7749

Commercial Phone #

9-9-94

Date

206

MC

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Port Hueneme Division of Naval Surface Warfare Center UIC: N63394

Reply: The Port Hueneme Division of the Naval Surface Warfare Center identified two facilities in response to Data Call 13: The Integrated Combat System Test Facility (ICSTF) at Point Loma, CA and the Self Defense Test Ship (SDTS) in Port Hueneme CA. ICSTF is classified as an Integration Laboratory and SDTS is classified as an Installed Systems Test Facility for Armament/Ordnance. Since no data was requested for Integration Laboratories ICSTF has not been addressed in this clarification. Data for SDTS has been provided in Form #2, Forms #1 and #3 do not apply.

T&E JCSG CLARIFICATION - FORM #2
Armament/Weapons (HITL & ISTF)

Activity Title: Port Hueneme Division of Naval Surface Warfare Center UIC: N63394

Facility/Capability Title: Self Defense Test Ship

T&E Test Facility Category: ISTF

Utilize the following table to indicate which of the indicated spectra are available to test against with this Facility /Capability.

| Spectra | Yes | No |
|------------------------------------|-----|----|
| Radio Frequency (RF) | X | |
| Electro-Optical (EO) | | X |
| Infrared (IR) | | X |
| Millimeter Wave (MMW) | | X |
| Ultra Violet (UV) | | X |
| Laser | | X |
| Midcourse Inertial/GPS (HITL only) | NA | NA |

Is this Facility/Capability equipped to support Top Secret or Special Access required work? Yes X No

SDTS is currently capable of performing tests to the level of Secret. Through special arrangements the ship can be made capable of accomodating Top Secret classification for special projects.

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. Sargent, Jr.

NAME (Please type or print)

Commander

Title

Naval Surface Warfare Center

Activity

[Signature]
Signature

9/14/94
Date

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

~~NEXT ECHELON LEVEL (if applicable)~~

~~NAME (Please type or print)~~

~~Signature~~

~~Title~~

~~Date~~

~~Activity~~

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print)

G. R. STERNER

Commander

Title

Naval Sea Systems Command

Activity

[Signature]
Signature

9-22-94
Date

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

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

W. A. EARNER

NAME (Please type or print)

[Signature]
Signature

Title

9/29/94
Date

Port Hueneme Division, Naval Surface Warfare Center
BSAT Request for Clarification - Control # EC-024

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.

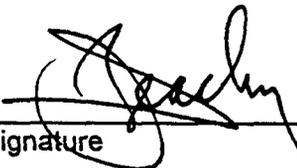
I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

Capt. John Scott Beachy
NAME (Please type or print)

Commanding Officer
Title

PHD NSWC
Activity


Signature
12 SEPT 1994
Date

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

NEXT ECHELON LEVEL (if applicable)

RADM (Sel) D. P. Sargent, Jr.
NAME (Please type or print)

D. P. Sargent
Signature

Commander
Title

8/23/94
Date

Naval Surface Warfare Center
Activity

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

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Signature

Title

Date

Activity

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

MAJOR CLAIMANT LEVEL

NAME (Please type or print)

Signature

Title

Date

Activity

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

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

NAME (Please type or print)

Signature

Title

Date

WIC

Port Hueneme Division, Naval Surface Warfare Center
Data Call 13

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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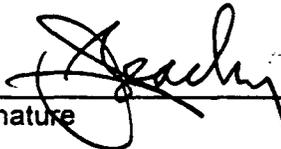
The signing of this certification constitutes a representation that the certifying official has reviewed the information and either (1) personally vouches for its accuracy and completeness or (2) has possession of, and is relying upon, a certification executed by a competent subordinate.

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

ACTIVITY COMMANDER

Capt. John Scott Beachy
NAME (Please type or print)


Signature

Commanding Officer
Title

19 AUG 1994
Date

PHD NSWC
Activity

The information to which this certification pertains is described as follows:

Revision to the Port Hueneme Division BRAC-95 Data Call 13, pages: 40R, 45, 61, 73, 74, and 76.

Details of the change described on the attached sheet.

Revisions to BRAC 95 Data Call #13
19 August 1994

- a. Page 40R - Change the FY 93 Personnel entries for Officer, Enlisted, Civilian, Contractor, and Total to: 2, 11, 49, 100 and 162 respectively. Inaccurate source used for this data.
- b. Page 40R - Change Equipment Tonage from 80.0 to 86.1 tons. Previous tonage figures erroneously omitted some equipment.
- c. Page 40R - Change Equipment Volume from 360,000 cu ft to 10,172 cu ft. Previously reported volume was volume of lab space where equipment resided vice volume of equipment itself.
- d. Page 40R - Change the FY 94 through FY 99 entries for Contractor Personnel to 76, 80, 80, 77, 76, and 74 respectively. Totals for FY94 through FY 99 changed in accordance with this correction to 144, 144, 144, 141, 140, and 138 respectively. Inaccurate source used for this data.
- e. Page 40R - Change the FY 94 through FY 99 entries for Capital Equipment Investment to \$713.5K, \$998.4K, \$716.0K, \$1018.4K, \$1128.7K, \$737.4K respectively. Previous figures were cumulative rather than yearly expenditures and also included some non capital expenditures.
- f. Page 45, Par 2.1.B.1 - For ESSM eliminate PE 0603755N. Test requirement generated by PE 0604755N.
- g. Page 61 Par 3.4.B.1.B - Change size of Range from 2,000 sq mi to 36,000 sq mi. Latter figure is total size of range vice that area used by Self Defense Test Ship.
- h. Page 61 Par 3.4.B.1.C - Change maximum test ranges for NATO SeaSparrow Missile System, Rolling Airframe Missile System, and Phalanx Close-In-Weapon System from 15, 5, & 1 to 10, 11, & 7 respectively. Ranges given were range of weapon vice maximum test range.
- i. Page 73 - Change entries in personnel table for FY 93 to zero for all categories of personnel. PHD NSWC did not take responsibility for Self Defense Test Ship until October of 1993. Change entries in personnel table for FY 94 through FY 99 to the following:

| PERSONNEL | FY 94 | FY 95 | FY 96 | FY 97 | FY 98 | FY 99 |
|------------|-------|-------|-------|-------|-------|-------|
| Officer | 0 | 0 | 0 | 0 | 0 | 0 |
| Enlisted | 0 | 0 | 0 | 0 | 0 | 0 |
| Civilian | 3 | 4 | 4 | 3.5 | 4 | 4 |
| Contractor | 9 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Total | 12.0 | 10.5 | 10.5 | 10.0 | 10.5 | 10.5 |

j. Page 74, Capital Equipment Investment Table - Change the entries for each year to \$0. Future improvements and modifications to the Self Defense Test Ship will be direct sponsor funded and not accomplished through a capital investment program.

k. Page 76 Change Total Programmed Amount for Ship Self Defense System from \$80K to \$2.4M. Typographical error.