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DEPARTMENT OF THE NAVY
SUPPORTING DATA
FOR FY 1990 AND FY 1991
BIENNIAL BUDGET ESTIMATES

SUBMITTED TO CONGRESS JANUARY 1989

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DEPARTMENT OF THE NAVY
INDUSTRIAL FUNDS
ASSET CAPITALIZATION PROGRAM

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DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988		FY 1989		FY 1990		FY 1991	
		Quantity	Total cost	Quantity	Total Cost	Quantity	Total Cost	Quantity	Total Cost
1	Equipment costing $1 million and more		40.0		43.1		71.1		44.1
2	Modernization		16.9		10.7		30.5		17.3
3	New Techniques		50.5		14.6		24.9		22.6
4	CAD/CAM		3.8		-		5.9		6.9
5	Major ADP Equipment		50.8		48.9		42.9		48.6
6	Equipment costing under $1 million		293.0		182.9		112.5		164.5
7	Minor Construction		43.6		46.5		49.8		51.0
8	Management Information Systems costing over $1 million		26.2		10.4		7.6		4.6
9	Management Information Systems costing under $1 million		14.3		7.7		6.8		5.4
	GRAND TOTAL		544.4		364.8		352.0		365.0

AERONAUTICAL ENGINEERING CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
A001	Daisy Engineering Workstation								1.0
	Total ACP Equipment Costing $1M or More								1.0
A002	Local Area Network		.9		.2		.5		.9
	Total Modernization		.9		.2		.5		.9
A003	RAMP						6.8		2.1
	Total New and Expanded Capability						6.8		2.1
A004	CCF Satellite Minicomputers			3	1.5			3	1.4
A005	NAC Central Computer Facility		6.8						
	Total Major ADP Equipment System		6.8		1.5				1.4
A006	CAD/CAM/CAE System		.2				.6		.4
	Total CAD/CAM/CAE System		.2				.6		.4
A007	Equipment Under $1M		10.7		5.1		3.7		4.8
A008	Minor Construction		1.4		2.0		1.5		2.3

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AERONAUTICAL ENGINEERING CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
A009	RAMP MIS						1.0		1.6
	Total MIS Costing Over $1M or More						1.0		1.6
A010	Management Info System Under $1M		6.3		.4		.6		.6
	Total Program Aeronautical Engineering Centers		26.3		9.2		14.7		15.1

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAC	C. ACP-1 Line No. & Item Description A001 - Daisy Engineering Workstation Enhancements

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Item												1,000

Narrative Justification:

Currently, circuit design is accomplished either manually or on an existing Daisy Personal Logician workstation. In the manual design case, circuit performance is verified through the fabrication of a breadboard model. Extensive circuit modifications often occur as a circuit matures from the breadboard phase to the production model. An improvement over the manual design method is the electrical engineering workstation, and NAC has many Daisy Personal Logician 286 models in use, but unfortunately there are not enough to keep up with the demand for workstation time. For the designs which are entered entered on the Daisy Personal Logician 286, functional simulation is performed with accurate component models to allow for circuit optimization without the need for numerous breadboard models. Testability analyses and fault simulation are also accomplished during the design phase, eliminating the need for costly reworks as the design progresses from the conceptual phase to the full-scale development phase. The Daisy Personal Logician 386 is a new model which, utilizing new technology, can perform circuit design three times as fast as the Personal Logician 286. This request will upgrade the existing 286 based units to 386 units.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAEC	C. ACP-1 Line No. & Item Description A002 - Local Area Network (LAN)

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items			940			200			495			900

Narrative Justification:

Supports a state-of-the art LAN with a technology that provides a broad bank backbone cabling architecture with system growth capabilities for NAEC. The backbone is tapped into appropriate buildings and areas within the buildings to support NAEC data, voice video, physical security, and graphics requirements. This allows NAEC to tie together current and future information systems in a cost-effective environment. A LAN is supportive of full connectivity in both communications and efficient transfer of information. This allows every user device on the network to communicate with every other user device. It is also designed to be flexible enough to satisfy the worst case demand and provide an enduring base to incorporate future technology (industry standards). The impact to the Center of not obtaining sufficient funding allocations will add to the initial baseline cost due to the inefficient non-utilization of peripherals and data. The center's phased approach to the installation of the LAN topology was predicated on efficient business practices. The systematic planned availability of various data bases such as UDAPS; BEST; EDMICS; CAFED; SPAR, etc., as they become operational for activity use, drives the NAEC phased installation plan. This approach allows NAEC to optimize the allocated funding for each given year, thus providing Center users with capabilities as they become available. The cost and strategies of decentralized implementation of various departmental LANs to provide connectivity to fiber optic backbone is the central theme of the NAEC LAN. All plans are being executed with that understanding. Total Center communication requirements will be satisfied by the NAEC LAN. This network also allows for communication throughout CONUS and the Fleet.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAEC	C. ACP-1 Line No. & Item Description A003 - RAMP

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items									6,800			2,100

Narrative Justification:

RAMP (Rapid Acquisition of Manufactured Equipment) is a self-contained and fully automated shop which can produce parts on demand from prepositioned raw materials and digital parts data. Through FY 1991, the Navy plans to procure a total of three RAMP cells which will be installed at NADEP Cherry Point, Naval Avionics Center, Indianapolis and Charleston Naval Shipyard. The cells at the NADEP and Shipyard will be configured to produce Small Mechanical Parts (SMP) while the cell at the Avionics Center will be configured to manufacture Printed Wiring Assemblies (PWA). Funds requested will provide for the establishment of one PWA cell and associated software. The RAMP cell at NAC will be fully operational in FY 1991. RAMP technology provides the flexibility to efficiently produce small Lot sizes (as small as one) over a wide range of parts (initially up to 3,000 per work cell). Through the use of Computer Integrated Manufacturing concepts, standardized digital drawings and specifications, Computer Aided Process Planning, Group Technology schemas and telecommunications, RAMP will provide improved quality and repeatability. In addition, it is expected that RAMP will decrease procurement and administrative leadtimes (up to 90%), establish sources for hard to obtain spare parts at reduced unit costs, and improve readiness through increased availability of spare parts. Spare part inventory levels and carrying costs are also expected to be significantly reduced through use of Just-In-Time philosophy for Customer ordering of RAMP produced parts.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAC	C. ACP-1 Line No. & Item Description A004 - CCF Satellite Minicomputers

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items				3		1,500				3		1,400

Narrative Justification:

These computers will be required to provide enhanced computing capability for various programs and corporate performance objectives. Some programs are experiencing productivity losses equivalent to one man-year as personnel wait for access to computing resources. This lost productivity will continue to be a serious problem as avionic systems become complex and the need for computing resources intensifies. It is estimated that any further loss of productivity due to the lack of resources could seriously affect NAC's ability to support several important programs.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAEC	C. ACP-1 Line No. & Item Description A006 - CAD/CAM/CAE System

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items			200						600			400

Narrative Justification:

The Computer-Aided Design/Computer-Aided Manufacturing/Computer-Aided Engineering System provides engineering personnel with the necessary hardware/software elements to perform their unique engineering disciplines. It provides immediate access and retrieval of filed engineering drawings and other data. Electronic distribution of information between user/offices and other Naval activities reduces transfer time. Ability to model and simulate hardware/software design allows for early identification and visualization of the final product. Multiple tasking operating system allows concurrent operations of the Central Processing Unit for maximum throughput, while increasing the amount of work for a given time period. Use of up-to-date computer data base technology to maintain configuration control of the system reduces time spent in maintaining accurate data required for this function. The CAD/CAM/CAE system will provide reduced errors, improved design quality, reduced cost, and increased productivity. The system will benefit the design of visual landing aid and catapult/arresting gear control systems, investigation of mechanical/electrical/hydraulic system dynamic model simulation, reduce weight of catapult and arresting gear systems and integrate engineering design with numerical control manufacturing equipment. Also, the system will enhance NAEC's ability to provide expert engineering support. Types of equipment required are 32 bit micro-computer, graphics monitors, pen/electrostatic, monochrome/color plotters, mechanical design software, networking, interfaces, cabling and software.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAC/NAEC	C. ACP-1 Line No. & Item Description A007 - Equipment Under $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total	Quant	Unit Cost	Total Cost
End Items			10,643			5,057			3,751			4,824

Narrative Justification:

Items of equipment under $1M include a wide variety of industrial plant, civil engineering support, office and ADP equipment that support the mission. Items include the following: 2 Lectriever filing systems, 1 telephone switching unit, 1 90 ton/147' boom PW crane, various other PW trucks and forklifts, 1 Random Vibration system, 2 milling machines, 1 Temperature chamber, 1 vertical contouring band saw, 1 electrostatic color plotter, 1 NOYAG-LASER-Pump with Harmonic generator, 1 Applicon Graphics Terminal, 1 card duplicating system, 1 simulation computer, 1 conformal coating system, 1 computer controlled wire Cutter, 1 Xerox workstation. The purchase of this equipment will improve the productivity and technological capability of the equipment base. It will support and insure accomplishment of the missions of research, test, design, development, and manufacturing of high quality, state-of-the-art avionics, catapult and arresting gears for the Navy. This equipment also supports base operations and many administrative functions including financial control, material control, personnel administration, public works facility support, computer and data processing support, and security operations.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAC/NAEC	C. ACP-1 Line No. & Item Description A008 - Minor Construction

	FY 1988			FY 1989			FY 1990			FY 1991		
E'EMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items			1,440			2,000			1,500			2,300

Narrative Justification:

The AECs are comprised of two activities; Naval Avionics Center is one large building covering over 11 acres while Naval Air Engineering Center is comprised of 307 buildings on over 7340 acres. Minor Construction projects in support of these facilities include contract and in-house efforts as follows: installation of surge control valve in fire main, several hazardous storage facilities, parking lot repair, security fencing, ventilation improvements, replacement of 3 underground fuel tanks, installation of emergency power generators, installation of air/conditioning systems in support of computer equipment, and various other office/workspace renovations/expansions, fire protection improvements, electronic warfare lab, cockpit display simulation lab, alterations B/3000, T-6 elevator, and computer room.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers/NAEC	C. ACP-1 Line No. & Item Description A009 - RAMP MIS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items									1,000			1,610

Narrative Justification:

The Rapid Acquisition of Manufactured Parts (RAMP) Facility is a Navy project which integrates automated manufacturing, robotics, computer-based management, and telecommunications techniques into a fully functional, flexible system capable of producing parts on demand. It will greatly improve performance by decreasing response time to fleet needs for spare or emergency repair parts which otherwise may not be available in suppliers' inventories. The Navy has both a current and a future need for rapid acquisition of low quantity demand repair parts at both a reduced lead time and reduced cost. Under current conditions, the Navy Supply System's average response time to orders for unusual or outdated parts is 300 days from to delivery. Under the proposed RAMP Program, the response time from demand to delivery is projected at 30 days. The proposed software will be utilized to design an interface between RAMP and existing financial management and material tracking systems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Aeronautical Engineering Centers	C. ACP-1 Line No. & Item Description A010 - Management Info Sys Under $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items			6,277			400			567			600

Narrative Justification:

The Distributed CCF procurement strategy is to acquire additional computing resources from the seven year contract as dictated by the Center's workload. In accordance with the Corporate Computer Resources Plan, additional Distributed CCF satellite minicomputers are required to support the Digital Scene Matching Area Correlator (DSMAC), Conventional Strike Support Center (DCSSC), the Cains Navigation Software Support Activity (SSA), the Standard Altitude Heading Reference System (SAHRS), the Avionics Manufacturing Excellence (AME) Program, Shop Floor Data Collection System (SFDCS), and the Supply Department Automation Corporate Goal. The computing resources currently available in the DSMAC and DCSSC are heavily overloaded. Due to the resource overload, large delays are experience between the time the user submits a computing request and the time that the request is processed. Many manhours are being lost waiting for computing resources, and the number and complexity of the DSMAC and DCSSC processing requests is growing rapidly. It is estimated that the processing capability of the DCSSC resources will be exceeded in the first quarter of Fiscal Year 1989. This will result in work not being performed due to the unavailability of computer resources. Also, A Prototype Executive Level Management Information System (MIS) is planned for development which will be PC-Based and allow user to interface with mainframe data base which will continue preliminary Systems Requirements & Systems Design.

NAVAL AIR TEST CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
B001	Command Local Area Network		2.2		1.0		4.0		3.0
B002	Fuel Farm Tanks		0.4		1.2				
B003	Anechoic Chambers						4.0		
	Total ACP Equipment Costing $1M or More		2.6		2.2		8.0		3.0
B004	CALS Modules								1.1
B005	EDMICS Modernization								2.6
	Total Specific Modernization Initiatives $1M or Over								3.7
B006	CAD/CAM Equipment		1.0						1.0
	Total CAD/CAM Equipment Costing $1M or More		1.0						1.0
B007	Electronic Warfare Software Engr Envir (EWSEE)		1.7						
	Total Major ADP Equip/Sys Over $1M		1.7						

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NAVAL AIR TEST CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
B008	Equipment Under $1M		5.6		1.9				.8
B009	Minor Construction		1.4		.6		.6		.6
B010	Total Management Information System Under $1M		.7						
	Total Program		13.0		4.7		8.6		9.1

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B001 - Command Local Area Network

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Hardware and Installation			2,200			1,000			4,000			3,000

Narrative Justification:

PACMISTESTCEN is introducing many automated information resources to enhance mission effectiveness such as large centralized main-frame processors, CAE/CAD/CAM systems, avionics integrated Weapon Systems Simulation Laboratories (WSSLs), test and measurement equipment, telemetry and instrumentation systems, video, and audio systems and workstations supporting both technical and administrative activities. These systems provide data reduction monitoring, control, data collection, project management, status, technical reporting, and financial management. Other communications requirements at PACMISTESTCEN include teleconferencing, high data rate transfers between major processors, long-haul electronic data transfers, DDN communications, centralized environmental control, remote electronic access control, remote video surveillance, non-administrative closed-circuit audio and video links, distribution of training material, audio public address systems and public view electronic bulletin boards. These systems individually show significant improvements in per-capita productivity, however high data rate interconnections are needed to achieve sharing of information and computer resources at the Center. Overall, PACMISTESTCEN has a mission dependent need for a comprehensive CLAN capability that can support a variety of data, video, and audio applications. This need for extensive additional data communication resources capable of interconnecting these distributed users to this extensive computing power can be satisfied by the CLAN.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B002 - Fuel Farm Tanker - Main Base

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Underground Hazardous Substance Storage Tanks			450			1,150						

Narrative Justification:

California law requires that all underground tanks storing hazardous substances comply with strict design and monitoring regulations. This law includes underground fuel storage tanks. The law establishes 1 January 1989 as the date by which all underground tanks have permanent leak detection equipment installed. Permanent leak detection equipment can be double-walled underground tanks with a leak detection sensor between the two walls; or single-walled tanks with daily tank inventory, yearly pressure testing, and groundwater monitoring. Ventura County environmental Health Department, as the enforcement agency for these regulations, has required that PACMISTESTCEN replace all existing single-walled underground tanks with double-walled tanks and sensors. Their reason for making this ruling is that PACMISTESTCEN is located in an environmentally sensitive area with the lagoon and coastline. PACMISTESTCEN's commitment to comply with State and local underground tank regulations will require command support and funding. Failure to comply with the law by 1 January 1989 will result in closure of underground tanks and a severe impact on operations. PACMISTESTCEN has been notified by the Ventura County Environmental Health Department that there will be no exceptions to this deadline.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B003 - Anechoic Chambers

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total	Quant	Unit Cost	Total Cost
Anechoic Chambers									4,000			

Narrative Justification:

Anechoic Test Chambers provide the PACMISTESTCEN with a facility for the measurement of low observable radar cross section with the use of a compact range reflector system. The Anechoic Test Chambers facility includes a data acquisition and processing computer system with peripherals, radar absorbing equipment for target handling and target support equipment of the microwave anechoic chamber, and microwave instrumentation including microwave sources, receiver, antennas, waveguides, cables, and associated equipment. Programs supported include low observable program, TOMAHAWK, AMRAAM, AIWS, AAAM, SLAT and SLAM.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B004 - CALS Modules

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
CAL Modules										1		1,100

Narrative Justification:

The DoD mandated Computer Aided Acquisition and Logistic Support (CALS) system requires CAM/CAM capability to automate the engineering design and weapon system development process. CALS objectives include: (1) actively influencing the design process to produce weapon systems that are more reliable and easier to support and maintain; (2) applying existing and emerging communications and computer aided technologies to improve the productivity, quality, and timeliness of logistics support; (3) integrating processes to create, store, retrieve, use, and distribution of logistic support products, and (5) reducing the quantity of technical paperwork needed to develop, acquire support, and maintain weapon systems. Benefits include quicker, more efficient procurement of spares, more efficient maintenance of operations systems; and more effective logistic planning and management of systems. This equipment will eventually be integrated with EDMICS (Engineering Data Management Information and Control System), automated technical manuals and orders, automated contracting, diagnostics and testing, provisioning, etc.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B005 - EDMICS Modernization

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Engineering Data Management Information and Control Systems Modernization (EDMICS)												2,600

Narrative Justification:

EDMICS PACMISTESTCEN is identified as one of the sites that require DoD mandated EDMICS installation to support the acquisition, storage, retrieval, and dissemination of logistics technical information in digital form for major weapon systems. The need for such a system to manage engineering data within the Navy is driven by several factors: (1) Congressional direction to improve management of technical information; (2) the Computer Aided Logistics Support (CALS) initiative, whose goal is to improve the accuracy, timeliness and use of logistic technical information; (3) the increased emphasis on competitive acquisition of spare parts under such programs as Buy Our Spares Smart (BOSS); (4) the growing quantity of engineering drawings as result of the introduction of highly complex weapon systems and equipment into Navy inventory; (5) escalating costs of managing engineering data; and (6) the advent of new technology for high volume storage and retrieval of digital data. The objective of engineering data management automation is to provide the capability to meet ever-increasing demand for engineering data through more efficient resource usage while significantly improving response time for both logistics and procurement support. This system eventually will be integrated with CAD/CAM, automated technical manuals and orders, automated technical manuals and orders, automated contracting, diagnostics and testing, provisioning, etc.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B006 - CAD/CAM Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
CAD/CAM Equipment			1,000									1,044

Narrative Justification:

The CAD/CAM system will automate the preparation, storage and retrieval of technical engineering drawings. The CAD/CAM will influence the design process to produce weapon systems that are more reliable and easier to maintain. The system will also greatly reduce the quantity of technical paperwork involved in logistics support. Benefits also include quicker, more efficient procurement of spares, more efficient maintenance of operational systems, and more effective logistic planning and management of systems. This equipment will eventually be integrated with EDMICS system (B005), automated technical manuals, and other logistics support systems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B007 - EW Software Engineer Environment

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Electronic Warfare Software Engineer Environment (EWSEE)			1,700									

Narrative Justification:

PACMISTESTCEN is designated by NAVAIRSYSCOM as the System Software Support Activity (SSSA) for the F-14A/D, EA-6B, and several other EW computer programs. As such, PACMISTESTCEN is required to support and/or provide the software system development, test, integration, and maintenance for those programs. Due to manpower shortages, increasing complexity of the tati-al computer programs, and an increasing paper burden, a system to automate the majority of the life cycle functions associated with these programs is required. The EWSEE is a turnkey system to automate the life cycle functions associated with tactical computer programs, including program development, test and maintenance. This procurement includes completion of the software implementation and integration of the turnkey system, a secure communications processor to be connected to the EWSEE computer which will provide the capability for a secure communications environment within EWSEE, a VAX 8700-compatible computer and peripherals, which will be used for real-time processing of program and simulation data.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B008 - Equipment Under $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment Under $1M			5,650			1,900						800

Narrative Justification:

PACMISTESTCEN is major test and evaluation facility supporting complex naval weapon systems. High technology and other equipment is required to support this mission. Changing technology has dictated a goal of a ten year average life of equipment. Currently, the average life is 13.6 years. PACMISTESTCEN is purchasing ACP equipment items to satisfy critical mission requirements and to achieve the ten year goal. Equipment purchases include 47 items of Civil Engineering Support Equipment including trucks, tractors and welding equipment, an optical processor, STAFS archiving equipment, graphics workstation with display, microcomputers, infrared and microwave spectrum radios, and various other general office ADP and test equipment. Also, six aircraft-28 track recorders, one ground station-28 track and playback unit, six aircraft TID/DD mission recorder and associated video recorder and six telemetry transmitters with encryptors is required to upgrade the Standard Modular Instrumentation System (SMIS). The SMIS upgrade meets the basic upgrade needs of the F-14, HARM Integration, IRST, AAAM, SPARROW, and PHOENIX programs. The SMIS upgrade will reduce cost per flight, provide 1.5 times the capability of the existing recorders and increase its reliability to the Navy.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Air Test Centers/ATC	C. ACP-1 Line No. & Item Description B009 - Minor Construction

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Minor Construction			1,400			600			600			600

Narrative Justification:

PACMISTESTCEN is a large test and evaluation facility comprised of 894 buildings on over 29,000 acres. The Minor Construction efforts in support of these facilities in FY 1989 include OSHA required ventilation improvements and sound absorbing material installation, one handicap elevator installation, and a secure data analysis room in the Weapons Evaluation Directorate. The program also includes a number of office and shop renovations to improve substandard workspaces.

MILITARY SEALIFT COMMAND
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
C001	Equipment Under $1M		2.0		0.5		0.7		0.7
	Sub-total Equipment		2.0		0.5		0.7		0.7
C002	Minor Construction		0.0		0.2		0.1		
	Sub-total MCON		0.0		0.2		0.1		
C003	Sealift Information								
	Database (SID)		1.5						
C004	Engineering Admin								
	System (EASY)		1.2						
C005	Sealift Supply								
	System (SEASUP)				1.1				
C006	Other AIS Under $1M		1.9		2.7		3.6		3.2
	Sub-total AIS		4.6		3.8		3.6		3.2
	GRAND TOTAL ACP		6.6		4.5		4.4		3.9

IF EXHIBIT ACP-1

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 PRESIDENT'S
BIENNIAL

B. Industrial Fund/Activity Group/Activity

NIF/MILITARY SEALIFT COMMAND/MSC

C. ACP-1 Line No. & Item Description

C001 Equipment Under $1 Million

	FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Containers	15	26.5	400	21	26.7	559	20	26.5	530
Office/Other Equipment									
Computer Equipment			91			100			150
Total			491			659			680

Narrative Justification:

In all years the majority of ACP equipment funding is used to procure containers for the MPS and Cargo programs. ADP items relate to MSC's goal to upgrade its information systems capability. This effort is manifested by the combined efforts of MSC and NAVDAC to develop an overall Information System which will link all components - e.g., COMNET.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 PRESIDENT'S BIENNIAL

B. Industrial Fund/Activity Group/Activity

NIF/MILITARY SEALIFT COMMAND/MSC

C. ACP-1 Line No. & Item Description

C002 Minor Construction

	FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer Center			200						
Men's Lavatory									
Warehouse Renovation						100			
Engineering Annex									
Total			200.0			100			0

Narrative Justification:

Construction efforts are to cover habitability improvements at MSC area command in Oakland California.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity	C. ACP-1 Line No. & Item Description
NIF/MILITARY SEALIFT COMMAND/MSC	C005 Sealift Supply System (SEASUP)

	FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
SEASUP			1,107						
Total			1,070						

Narrative Justification:

SEASUP will provide automated support to shoreside supply functions, material procurement management which includes requisition processing and demand reporting, CASREP monitoring, warehouse management, supply personnel school administration, and subsistence management. It is projected to save $2.8 million over a seven year life cycle.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 PRESIDENT'S
BIENNIAL

B. Industrial Fund/Activity Group/Activity

NIF/MILITARY SEALIFT COMMAND/MSC

C. ACP-1 Line No. & Item Description

C006 Other AIS Under $1 Million

ELEMENTS OF COST	FY 1989 Quantity	FY 1989 Unit Cost	FY 1989 Total Cost	FY 1990 Quantity	FY 1990 Unit Cost	FY 1990 Total Cost	FY 1991 Quantity	FY 1991 Unit Cost	FY 1991 Total Cost
Various Information Systems			2,669			3,594			3,179
Total			2,669			3,594			3,179

Narrative Justification:

The remaining systems under development - e.g., MEDIF, SMIS, COMNET, FLEET - are all based on a Target Information Architecture which describes total MSC information requirements and defines specific information systems projects for development. Overall a total of 19 individual information systems have been identified for development. These systems correspond to specific shoreside functions within MSC and shipboard information requirements which interface with the shoreside systems.

IF-ACP2

NAVY REGIONAL DATA AUTOMATION CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
	A. Equipment Costing Over $1M								
D001	CPU Purchase	2	4.3			1	3.2	1	3.8
D002	IBM 3081	1	1.1						
D003	Sherry 8481 Disk Drive			1	1.1				
D004	Masstor Backup System							1	1.3
	Total A Subtotal		5.4		1.1		3.2		5.1
	B. Specific Modernization Initiatives								
D005	Data Processing Installation Equipment Transition				6.0		7.2		6.2
	Category B Subtotal				6.0		7.2		6.2
	C. New/Expanded Techniques								
D006	IDAFIPS Processors				6.2		5.2		4.0
	Category C Subtotal				6.2		5.2		4.0

IF EXHIBIT ACP-1
Page 1 of 2

NAVY REGIONAL DATA AUTOMATION CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
	F. Other Equipment Costing Less than $1M								
D007	Other Equipment Costing Less than $1M		11.0		0.4		0.3		1.3
	Category F Subtotal		11.0		0.4		0.3		1.3
	Navy Regional Data Automation Centers Total		16.4		13.7		15.9		16.6

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Regional Data Automation Centers/NARDAC	C. ACP-1 Line No. & Item Description D001 - CPU Purchases

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
CPU	2	2,157	4,314				1	3,172	3,172	1	3,802	3,802

Narrative Justification:

Purchase of 1100/90 CPUs will be required at four NARDACs to ensure that Navy customer's are being provided with the most effective up-to-date ADP technology. Current 1100/70 systems do not have sufficient capacity for projected workload; space limitations also necessitate the purchase of 1100/90's vice upgrades of 1100/70 systems. NARDAC Jacksonville's 1100/70 system, which supports NADEP, NRFC, Portsmouth Naval Shipyard and COMNAVDAC, is currently at 70% capacity. This system is projected to be at 100% capacity in April 1989; increased workload after that point requires the 1100/90. In FY 1991, increased workload for NALC/NADEP systems such as NIMMS, NIFMS and WCS drive the requirement for an 1100/90 system at NARDAC Pensacola.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Regional Data Automation Centers/NARDAC	C. ACP-1 Line No. & Item Description D003 - Sperry 8481 Disk Drive

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
8481 Disk Drive				1	1,082	1,082						

Narrative Justification:

PNS-222 Sperry Disk Equipment 8481 disk purchase is required in order to gain sufficient disk capacity to support increased workload resulting from implementation of Financial Reporting System and expansion of Navy Integrated Training and Resource Administrative System.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity *NIF/Navy Regional Data Automation Centers/NARDAC*	C. ACP-1 Line No. & Item Description D004 - Mass Storage Backup System

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Mass Storage Backup System										1	1,301	1,301

Narrative Justification:

The Mass Storage System is a backend processor for large volume output. It will replace 2500 tapes, eliminate problems caused by lost tapes, and save time on file reloads.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Regional Data Automation Centers/NARDAC	C. ACP-1 Line No. & Item Description D005 - DPI Equipment Transition - Phase III

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
DPIET-Phase III						6,000			7,200			6,178

Narrative Justification:

Phase III is a minimum - guarantee contract that will provide an acquisition vehicle for obtaining an additional computer suite capability for the NAVDAC community. The purpose is to augment existing hardware suites that are being rapidly outdated by emerging technology, to minimize dependence on currently installed equipment, and to provide a wider range of mainframe capability for support of Navy customers.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Regional Data Automation Centers/NARDAC	C. ACP-1 Line No. & Item Description D006 - IDAFIPS Processors

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
IDAFIPS						6,161			5,225			3,975

Narrative Justification:

Purchase and subsequent upgrade of UNISYS A-17 computers will be required at four NARDACs to ensure processing capacity to support the scheduled implementation of the IDAFIPS system Navy-wide. The initial configurations will be sized for the initial implementation workload and will be upgraded as additional financial processing centers are added at each NARDAC. NARDACs Norfolk, Pensacola and San Diego will be the support sites for all CONUS operations; NARDAC Pearl Harbor will process the Pacific workload.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Regional Data Automation Centers/NARDAC	C. ACP-1 Line No. & Item Description D007 - Other Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Other Equipment			11,023			417			285			1,324

Narrative Justification:

Procurement of other ADP equipment is needed to keep the NARDACs abreast of current technology and increase their competitive edge in the ever-changing field of ADP. The ability to be responsive to customer needs throughout the Navy is a driving force behind these procurements, which include upgrades for tape drives, terminals, and software. Also included in this category are uninterruptable power supplies and security equipment.

NAVAL AVIATION DEPOTS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

LINE NUMBER	ITEM DESCRIPTION	FY 1988		FY 1989		FY 1990		FY 1991	
		QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST
E001	Electronic Publishing System	1	.5	1	.6			1	.4
E002	Automatic Storage & Retrieval System			1	5.3				
E003	Automatic Storage & Retrieval System			1	.2				
E004	Plating Tanks			1	2.8				
E005	Engine Fuel Test Stands			3	1.1				
E006	Engine ASKARS							1	1.0
TOTAL ACP EQUIPMENT OVER $1M			**.5**		**10.0**		**0**		**1.4**
E007	Computer System/ VAX 8600	1	.9						
E008	Engine Test System	1	1.6						
E009	System Automatic Test Station	1	1.8						

IF EXHIBIT ACP-1

NAVAL AVIATION DEPOTS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

LINE NUMBER	ITEM DESCRIPTION	FY 1988		FY 1989		FY 1990		FY 1991	
		QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST
E010	Hydraulic Test Stand	1	1.3						
E011	VAST Test Station	1	1.4						
E012	Auxiliary Power Unit Test Cell					4	1.7		
E013	Flexible Manufacturing Cell							1	1.5
E014	Automatic Digital Acquisition System					1	5.0		
E015	Kenway Storage & Distr. SYS Update					1	9.1		
E016	Computer System Upgrade							1	.2
TOTAL MODERNIZATION INITIATIVES			**7.0**		**0**		**15.8**		**1.7**
E017	Interactive Graphics	1	1.7						

IF EXHIBIT ACP-1

NAVAL AVIATION DEPOTS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

LINE NUMBER	ITEM DESCRIPTION	FY 1988		FY 1989		FY 1990		FY 1991	
		QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST
E018	Gear Measuring Fac Stand			1	1.5				
E019	Grinding Machine					1	1.8		
E020	Compact Automatic Antenna Test Set					1	1.0		
E021	Digital Computer System							1	.5
E022	RAMP			1	.7	1	.9	1	3.7
TOTAL NEW/EXPANDED TECHNIQUES			**1.7**		**2.2**		**3.7**		**4.2**
E023	CADS System	1	.6						
TOTAL CAD/CAM/CAE			**.6**		**0**		**0**		**0**
E024	NALCCOIS		9.1		2.2				.1
E025	LAN		2.5		.1		.3		.3
TOTAL MAJOR ADP EQUIPMENT			**11.6**		**2.3**		**.3**		**0.4**

NAVAL AVIATION DEPOTS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

LINE NUMBER	ITEM DESCRIPTION	FY 1988		FY 1989		FY 1990		FY 1991	
		QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST	QUANTITY	TOTAL COST
E026	Other ACP Equip		27.9		19.8		12.2		27.3
TOTAL ALL ACP EQUIPMENT UNDER $1M			**27.9**		**19.8**		**12.2**		**27.3**
E027	Minor Construction		7.1		5.9		10.7		10.0
TOTAL MINOR CONSTRUCTION			**7.1**		**5.9**		**10.7**		**10.0**
E028	NIFMS		1.6		1.5		2.4		1.6
E029	WCS		4.7		6.2		2.4		.6
TOTAL MIS SYSTEM COSTING $1M OR MORE			**6.3**		**7.7**		**4.8**		**2.2**
E030	Other Management Information System		.6		.7				
TOTAL MIS SYSTEM COSTING UNDER $1M			**.6**		**.7**				
	GRAND TOTAL		**63.3**		**48.6**		**47.5**		**47.2**

IF EXHIBIT ACP-1

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ CHERRY POINT							C. ACP-1 Line No. & Item Description E001 ELECTRONIC PUBLISHING SYSTEM						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
	1		500	1		600				1		400	

Narrative Justification:

Three phase Project that will eliminate $38.8 million dollars in contracting costs to develop and publish manuals, user guides, theory of operation books, schematics and technical documents. This system will provide documents upon demand in lieu of contracting out for them which will provide a service previously unavailable. Estimate Payback Period = .8 years. Estimated Rate of Return on Investment = 12.8%

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/NORFOLK							C. ACP-1 Line No. & Item Description E002 AUTOMATIC STORAGE & RETRIEVAL SYSTEM						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
				1		5,250							

Narrative Justification:

Automated Storage and Retrieval System will provide space efficient controlled storage and material transportation to support production control and production operations in the Aircraft Engine Facility. Estimated Payback 7.4 years.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity: NIF/NAVAL AVIATION DEPOTS/JACKSONVILLE							C. ACP-1 Line No. & Item Description: E003 AUTOMATIC STORAGE AND RETRIEVAL SYSTEM						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
				1		150							

Narrative Justification:

This Automatic Storage and Retrieval System is an integral part of a Military Construction Project at NAVAVNDEPOT Jacksonville. Due to a procedural change in MILCON programming the funding was changed to the NIF category (Asset Capitalization Program).

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION

B. Industrial Fund/Activity Group/Activity
NIF/NAVAL AVIATION DEPOTS/ ALAMEDA

C. ACP-1 Line No. & Item Description
E004 PLATING TANKS AND MISCELLANEOUS EQUIPMENT

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
				1		2,800						

Narrative Justification:

- Reduces most of the cadmium plating and vacuum cadmium coating requirements
- Reduces cadmium and cyanide wastewater treatment requirements
- Reduces water consumption and plating chemical material consumption
- Integrates with the new Plating Facility, MCON P-783, with a dedicated IVD room, preparation area and support equipment.
- Improves the life expectancy of high strength steel aircraft landing gear by providing a better corrosion barrier.

170 Plating tank signs	2 Degreasers
166 Plating tanks	5 Abrasive blast cabinets
47 Tank rods	4 Ovens
140 Agitator sets	2 Polishing buffers
15 Filter systems	Piping to tanks
18 Pumps	Electrical to tanks
102 Tank heating/cooling coils	Ventilation ducting to tanks

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/NORTH ISLAND							C. ACP-1 Line No. & Item Description E005 ENGINE FUEL TEST STANDS						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
				3	380	1,140							

Narrative Justification:

Two turbo jet engine fuel control test stands are required to provide a means for testing after overhauling the T-58 Main Fuel Control (MFC) P/N 744322-1 and the T-64 MFC P/N 60005T77. The T-58 engine supports the H-46 helicopter and the T-64 engine supports the H-53 helicopter. Due to the nature of these fuel controls, a fuel control test stand which is composed of interconnected complicated parts in involved arrangement is required. The test stands shall be used to verify the performance and operating characteristics which will insure a safe, dependable and quality fuel control for fleet readiness. Estimated Payback Period = Beyond the estimated useful life of Return on Investment = 2%.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ CHERRY POINT							C. ACP-1 Line No. & Item Description E006 ENGINE ASKARS SYSTEM						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
										1		1,000	

Narrative Justification:

The Engine ASKARS System will provide an automated storage, kitting, and retrieval system and an automated guided vehicle system for the engine rework building at the NAVAVNDEPOT Cherry Point. This system will cost approximately $2,500,000 and the contracting facility will be the Navy Supply Center, Norfolk, Virginia.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ Cherry Point							C. ACP-1 Line No. & Item Description E012 AUXILIARY POWER UNIT TEST CELL						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
							4		1,721				

Narrative Justification:

The Naval Aviation Depot, Cherry Point is the East coast designated overhaul point for the overhaul and testing of aircraft pneumatics systems, components, and accessories for the Department of the Navy. Current plans call for the rework and testing of all GTC-92-2, T-62T-11, and T-62T-27 pneumatics engine auxiliary power units by FY 92. Expected workload for FY 89-91 is 5612 Units. The proposed equipment, four pneumatics engine test cells, will replace existing equipment which is reaching the end of its expected life. The present condition of the test cells (outdated computer control system) is the primary contributor to increasing maintenance costs/downtime. The new units will contain the latest computerized control for the unit under test, improving overall efficiency and accuracy of testing. Estimated Payback Period = 2.9 years. Estimated Rate of Return on Investment = 5.2%.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/NORFOLK							C. ACP-1 Line No. & Item Description E013 FLEXIBLE MANUFACTURING CELL						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
										1		1,500	

Narrative Justification:

This is a totally intergrated hardware, software random processing manufacturing system. It will replace four CNC 2-axis machines that have been out of production for eight years. The new system will reduce manufacturing time considerably. The system consists of a numerically controlled machining cell of four 3-axis machines operated by three machinists, eliminating one machinist position. It will provide an annual cost savings of $380,000 in labor, maintenance, and lost work hours.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ NORTH ISLAND							C. ACP-1 Line No. & Item Description E014 AUTOMATIC DIGITAL DATA ACQUISITION SYSTEM (ADDAS)						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
							1		5,000				

Narrative Justification:

This proposal outlines the justification to modernize NAVAVNDEPOT, North Island's Test Cells 9 through 12. This concept in engine testing will not only greatly improve the turnaround time during testing of various type of engines already in NAVAVNDEPOT, North Island inventory, but will also reduce the amount of effort needed for adapting future types of engines to the test cell complex. It will also greatly improve the documentation of the engine run improve test cell efficiency, reduce fuel consumption, increase test cell usage and establish automated documentation procedures. Some major features of the ADDAS are listed below:

- Data is collected almost instantaneously, both automatically and/or on manual command. Printed and/or displayed on a CRT display.
- Immediate data normalization including standard time correction.
- Built-in calibration routines can calibrate the system to internal references. Automatically, and/or on command, thereby verifying the systems constant calibration.

Estimated Payback Period - 8.38 years.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ NORTH ISLAND							C. ACP-1 Line No. & Item Description KENWAY STORAGE AND E015 DISTRIBUTION SYSTEM UPDATE						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
							1		9,100				

Narrative Justification:

The Kenway Storage and Distribution System provides automatic storage and retrieval of parts and material for the Aircraft Component Rework Facility. This system will replace the current AS/RS and conveyor equipment presently in Building 472. This new integrated material handling system shall include the following equipment elements:

a) Automated storage and retrieval systems and rack
b) Material handling totes including bar code labels
c) Integrated Material Handling System Computer and (Programmable) Controller Network
d) Power distribution to all system components
e) Large Item and Very Large Item pallet racking
f) Material Movement Vehicles
g) Material Movement Carts
h) Material Control Centers and related area equipment
i) Structural steel supports, maintenance platforms, and equipment guards
j) Interface to Zenith terminals through Ungermann-Base LAN.
k) All RF related equipment

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/NORFOLK							C. ACP-1 Line No. & Item Description E016 COMPUTER SYSTEM UPGRADE						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
										1		200	

Narrative Justification:

Upgrade for Materials Laboratory Information Management System. This will enable central data collection of the instrumentation used for spectronic, chromographic, and oil analysis measurement for statistical and trend analysis. Upgrade will consist of the following additional lab equipment which will interface with the Materials Laboratory Information Management System: spectro meters, x-ray equipment, chromatographo, and scanning electron microscopes.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity: NIF/NAVAL AVIATION DEPOTS/ PENSACOLA							C. ACP-1 Line No. & Item Description: E018 GEAR MEASURING FACILITY STAND						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
				1		1,500							

Narrative Justification:

This strategic procurement is to establish a new capability for the precision measurement of gears and or splines. The Depot does not have the capability to perform accurate inspection of components of this nature. First article gear components are presently either measured by the source vendor or are subcontracted out. Clearly this method is not suitable to the Depot. It is estimated that 25 percent of these gearbox failures could be eliminated by on site inspection of the gear sets prior to reassembly. This equates to $294,500 for an 18 month period at current production rates. Production planning forecasts show increased production requirements for all aircraft dynamic components. Aircraft and aircrew safety is an important issue. Failure of any gearbox component while in flight could be disasterous. The measurement system will enable the Depot to access potential failures not otherwise identifiable.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)										A. BUDGET SUBMISSION		
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ALAMEDA							C. ACP-1 Line No. & Item Description E019 GRINDING MACHINE					
	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
							1		1,800			

Narrative Justification:

The new grinder will provide the new capability of grinding P-3 and A-6 landing gear cylinders. Planned workload, using present equipment, indicates a deficit of 4,254 machine hours per year. Contracting out the deficit hours would cost approximately $455,000 per year. Since the established service life of the proposed grinder is 13 years economics suggest the purchase is justified. Estimate Payback Period = 4.8 years. Estimated Rate of Return on Investment = 17%.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ALAMEDA	C. ACP-1 Line No. & Item Description E020 COMPACT AUTOMATIC ANTENNA TEST SET (CAATS)

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
							1		1,000			

Narrative Justification:

The Compact Automatic Antenna Test Set (CAATS) expansion is an automatic instrument/software package used to expand the CAATS at NAVAVNDEPOT Alameda. The CAATS expansion will update the station to a state-of-the-art microwave antenna test system capable of testing the latest microwave antenna and radomes. The expansion will increase frequency capability to 100 GHZ. It will greatly increase both stability and accuracy of test results. The purpose of expanding the CAATS is to maintain and increase the antenna workload through the enhancement of the CAATS station. The expanded CAATS system will increase the speed of testing through automation. However, the volume of workload expected for the future will require at least one additional shift. Without the CAATS expansion, NAVAVNDEPOT Alameda will be unable to accept the additional workload. Estimated Payback Period = 2.9 years. Estimated Rate of Return on Investment = 25%.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/ NORTH ISLAND							C. ACP-1 Line No. & Item Description E021 DIGITAL COMPUTER SYSTEM						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
										1		500	

Narrative Justification:

The equipment is required to project workload related to the Mobile Vans and track and buy components for this project wisely. Currently, computational resources do not have the capability to process CIM data & provide dynamic responses to situational projections. This restricts intelligent and accurate procurement actions at a least cost method. The financial tracking of outstanding obligations from government personnel is manually tracked and needs to be automated to extract monies from personnel. Detailed costing and tracking of financial amounts related to the production process and materials is not finite enough to make sound economic decisions. The accounting system will be utilized to assist in the decision processes by being able to provide financial impact statements on any detailed phase of operation quickly and reliably. Estimated Payback Period = 5.8 years. Digital Computer System to be used to automate manual procedures and actions related to accounting and material tracking of processes and material. Digital Computer System consisting of:

a. Central Processor
b. 12MB/64K Chip ECC MOS Memory
c. Operating System License
d. Disk Subsystem
e. Tape Subsystem
f. Communications
g. System Console
h. Required Peripheral Hardware

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS/CHERRY POINT							C. ACP-1 Line No. & Item Description E022 RAMP						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
				1		750	1		900	1		3,658	

Narrative Justification:
RAMP (Rapid Acquisition of Manufactured Equipment) is a self-contained and fully automated machine shop which can produce parts on demand from prepositioned raw materials and digital parts data. Through FY 1991 the Navy plans to procure a total of three RAMP cells which will be installed at NADEP Cherry Point, Naval Avionics Center, Indianapolis and Charleston Naval Shipyard. The cells at the NADEP and Shipyard will be configured to produce Small Mechanical Parts (SMP) while the cell at the Avionics Center will be configured to manufacture Printed Wiring Assemblies (PWA). Funds requested will provide for the establishment of one SMP cell and associated software. The RAMP cell at Cherry Point which will be fully operational in FY 1991.
RAMP technology provides the flexibility to efficiently produce small Lot sizes (as small as one) over a wide range of parts (initially up to 3,000 per work cell). Through the use of Computer Integrated Manufacturing concepts, standardized digital drawings and specifications, Computer Aided Process Planning, Group Technology schemas and telecommunications, RAMP will provide improved quality and repeatability. In addition it is expected that RAMP will decrease procurement and administrative leadtimes (up to 90%), establish sources for hard to obtain spare parts at reduced unit costs, and improve readiness through increased availability of spare parts. Spare part inventory levels and carrying costs are also expected to be significantly reduced through use of Just-In-Time philosophy for Customer ordering of RAMP produced parts.
The estimated Internal Rate of Return (IRR) for RAMP investment is estimated to be 122%. The estimated Return on Investment (ROI) is approximately 142% (5 years) and 115% (lifetime) with a payback of less than one year (.87 years).

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS	C. ACP-1 Line No. & Item Description E024 NALCCOIS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
ALAMEDA			2,000									
CHERRY POINT						700						
JACKSONVILLE			2,107			228						
NORFOLK			1,200									
NORTH ISLAND			3,342			800						99
PENSACOLA			470			441						
TOTAL			9,119			2,169						99

Narrative Justification:

The Naval Aviation Logistics Center Communication and Office Information System was developed and maintained by the Naval Aviation Depot Operations Center. This is a corporate initiative. This system allows the Naval Aviation Depots to operate compatible equipment and use shared resources. This will enhance the capabilities of the Naval Aviation Depots to work as a corporate unit and interface with higher level computer systems. The system supports local data base management, word processing, graphics, electronic mail, data entry, spreadsheets, telecommunications, and locally developed software. The office automation will increase the effectiveness and productivity of managerial, professional, and clerical workers who are faced with the increasing demand for technical research, investigative studies, ongoing information programs, routine paperwork. The third phase of the ongoing project is to provide office information systems. This phase will provide the funding for the host computer, additional workstation and networking capabilities between the various buildings and offices of the Depot. The systems Decision II was approved by CNO on 13 July 87 to expedite a competitive procurement for the hardware, software and services for the Naval Aviation Logistic Center Communication and Office Information System (NALCCOIS) for a six-year period.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS							C. ACP-1 Line No. & Item Description E025 LOCAL AREA NETWORK (LAN)						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
JACKSONVILLE			472			75							
NORFOLK			1,400										
NORTH ISLAND									185			300	
PENSACOLA			600						102				
TOTAL			2,472			75			287			300	

Narrative Justification:

The equipment and software is required to support the NADEPs production requirements for Office, IRM, Decision Support, Manufacturing, Industrial and Engineering information flow. It also allows for central management of plant data communications resource planning. Industrial processes requiring monitoring of variables such as temperature, pressure, strain and other measurable phenonemon can be done more reliably at a central point with fewer personnel. Energy Management could be an outgrowth of the network whereby, the LAN acts as the central nervous system for the plant monitoring peak loads and area usage. The LAN could provide remote control of facilities and thus allow the shut down of entire buildings not in use.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION

B. Industrial Fund/Activity Group/Activity
NIF/NAVAL AVIATION DEPOTS

C. ACP-1 Line No. & Item Description
E026 OTHER ACP EQUIPMENT UNDER $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENT OF COST	**Qty**	**Unit Cost**	**Total Cost**	**Qty**	**Unit Cost**	**Total Cost**	**Qty**	**Unit Cost**	**Total Cost**	**Qty**	**Unit Cost**	**Total Cost**
VARIOUS			27,900			19,750			12,200			27,300

Narrative Justification:

The NADEPs perform a variety of complex rework operations on aircraft, weapons systems, accessories and equipment: manufacture parts and assemblies; provide engineering services; furnish technical and other professional services on aircraft and logistics problems; and numerous other duties as assigned. Therefore ACP purchases are varied and assorted. Such project for FY 1990 and FY 1991 include procurement of a 5-axis milling machine to produce complex aircraft parts; multi-function hydraulic test stands that replace several high maintenance obsolete ones, effecting savings in maintenance manhours, maintenance costs, and operational manhours; fuel control test stands to permit testing after overhaul of engine fuel controls; a plating shop waste disposal purification system which eliminates the environmental hazards of contaminants disposal; a gear-box fuel load test stand that provides a test procedure for overhauled gear boxes prior to installation in the airframe and the flight testing; and linear ball screw actuator test stand to replace the existing one that has exceeded its service life by over 125%, is grossly inadequate, and consumes a unacceptably high number of maintenance manhours. In addition, purchases are planned for upgrading of automatic warehouse systems; upgrading of office automation and telecommunication systems. All of the above not only maintain the Depots excellent level of service but the result in both short and long term savings.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS							C. ACP-1 Line No. & Item Description E027 MINOR CONSTRUCTION						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
Jacksonville			1,073			712			1,321			1,460	
Cherry Point			1,527			1,009			1,403			1,435	
Pensacola			1,462			712			1,506			1,302	
North Island			364			1,365			2,500			2,100	
Norfolk			719			1,187			1,800			1,800	
Alameda			1,905			961			2,207			1,900	
Total			7,050			5,946			10,737			9,997	

Narrative Justification:

Minor Construction projects at the six Naval Aviation Depots cover a wide range of facilities work. Examples of projects accomplished/planned for fiscal years 88, 89, 90, 91 are:

- Construction of a material storage mezzanine
- Construction of a covered material receiving area
- Building alterations to permit equipment installation
- Upgrading basic utilities systems to support production workload.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS							C. ACP-1 Line No. & Item Description E028 NAVAIR INDUSTRIAL FINANCIAL MANAGEMENT SYSTEM (NIFMS)						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
Labor			600			481			765			521	
Travel			360			336			525			355	
Contracts			603			728			1,127			758	
CPU Time			2			2			3			2	
TOTAL			1,565			1,547			2,420			1,636	

Narrative Justification:

NIFMS provides a standard financial management system for the six Naval Aviation Depots (NAVAVNDEPOTs) which encompasses the principles and procedures related to budgeting, accounting, and reporting at field activities. NIFMS maintains general ledgers, handles disbursements, bills customers, and supports other Navy Industrial Fund management functions. The system interface with local NAVAVNDEPOT systems as well as the Navy Finance Centers. NIFMS will capture labor, material, contractual and other costs at the shop and job order level; will accumulate and maintain them in cost and expense records; and will record financial and other information on the Customer Order records, Customers will be billed, all cash receipts and expenditures will be generated for tracking costs at various levels and useful information on direct and indirect programs will be provided. These activities will occur at the six NAVAVNDEPOTs. NIFMS is designed to interface with other internal management systems such as the NAVAIR Industrial Material Management System and the Workload Control System; the database will also be accessible from the NAVAVNDEPOTOPSCEN for reporting purposes.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION

B. Industrial Fund/Activity Group/Activity
NIF/NAVAL AVIATION DEPOTS

C. ACP-1 Line No. & Item Description
E029 WORKLOAD CONTROL SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Labor			1,200			1,950			1,554			484
Travel			204			105			30			18
Contracts			2,232			3,199			550			50
CPU Time			1,100			898			298			8
Total			4,736			6,152			2,432			560

Narrative Justification:

The Workload Control System (WCS) is a production management and control system that is utilized by the six NAVAVNDEPOTs. It schedules, inducts, and controls depot level workload consisting of aircraft, missiles, engines and component rework, and part manufacture. The system accumulates costs, distributes labor, generates payroll data, and reports work accomplishment, status and costs internally and externally. The WCS project consists of design, development and implementation of a on-line data base oriented Production Control and Management Information System to replace the current batch sequential system operating at the NAVAVNDEPOTs.

IF-ACP2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)													A. BUDGET SUBMISSION
B. Industrial Fund/Activity Group/Activity NIF/NAVAL AVIATION DEPOTS							C. ACP-1 Line No. & Item Description E030 OTHER MANAGEMENT INFORMATION SYSTEMS (LESS THAN $1M)						
	FY 1988			FY 1989			FY 1990			FY 1991			
ELEMENT OF COST	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	
Labor - LAN			138			94							
Travel - LAN			25			17							
Contracts - LAN			245			166							
Labor - NALCCOIS			42			90							
Travel - NALCCOIS			45			97							
Contracts - NALCCOIS			100			215							
Total			595			679							

Narrative Justification:

The NALCCOIS and LAN projects are developed and maintained by the NAVAVNDEPOTOPSCEN. These corporate initiatives allow the NAVAVNDEPOTs to operate compatible equipment and to use shared resources. This will enhance the capabilities of the NAVAVNDEPOTs to work as a corporate unit and to interface with higher level computer systems. The LAN (Local Area Network) is a network communication system while NALCCOIS (Naval Aviation Logistic Center Communications and Office Information System) is an inter- and intra-office communication system.

IF-ACP2

NAVAL CIVIL ENGINEERING LABORATORY
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988		FY 1989		FY 1990		FY 1991	
		Quant	Total Cost	Quant	Total Cost	Quant	Total Cost	Quant	Total Cost
P001	New or Expanded Techniques	18	1.5	8	.6	2	.2	4	.4
P002	Major ADP Systems	1	.3	1	.3	1	.3	1	.3
P003	Other Equipment Under $1M	28	1.5	42	1.2	16	.9	13	.7
P004	Minor Construction Projects	8	.7	6	.5	7	.6	7	.7
	Total Program	55	4.0	57	2.6	26	2.0	25	2.1

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ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Civil Engineering Laboratory/NCEL	C. ACP-1 Line No. & Item Description F001 - New or Expanded Techniques

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items	18		1,496	8		633	2		219	4		427

Narrative Justification:

NCEL has requirements to purchase state-of-the-art equipment to enhance the existing capability in the research arena. NCEL now leases this equipment at significant cost to sponsors. Equipment leasing is not cost effective in many cases or in the best interest of the Navy due to availability or equipment location requirements.

Equipment List Includes:

FY 1989: Navigation system, high power load bank, underwater equipment support module, humidity test chamber, acoustic and trackpoint systems and robotic test bed.

FY 1990: Remotely operated vehicle, ram tensioner system, offroad vehicle dynamics simulator system and atomic spectrophomomer.

FY 1991: Universal construction anchor, portable generator and light trailer utility vehicle and intrustion detection system.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Civil Engineering Laboratory/NCEL	C. ACP-1 Line No. & Item Description F002 - Major ADP Systems

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items	1		304	1		300	1		300	1		330

Narrative Justification:

NCEL plans to implement a professional management system by FY 1990. This system will provide comprehensive information on the status of each research initiative and the technical progress of each engineer or scientist associated with a specific project.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Civil Engineering Laboratory/NCEL	C. ACP-1 Line No. & Item Description F003 - Other Equipment Under $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items	28		1,504	42		1,217	16		851	13		679

Narrative Justification:

The NCEL capital equipment inventory, which includes both purchased and contributed fixed assets, must be continually replaced or upgraded to current requirements and standards. The equipment upgrade requirement includes computer equipment, scientific equipment, photo equipment, shop equipment, and other types of engineering equipment.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Civil Engineering Laboratory/NCEL	C. ACP-1 Line No. & Item Description F004 - Minor Construction Projects

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End Items	8		736	6		450	7		652	7		619

Narrative Justification:

Some of these construction projects include:

FY 1989: Alterations to library, concrete pad 120'x100', office space 20'x16' BLDG 1311, line tension facility 10'x100', structural test laboratory, hazardous waste holding area, rigger facility 40'x100', alterations to cold chamber BLDG 566, upgrade electrical service to BLDGS 1195 and 570.

FY 1990: Alterations to steam laboratory BLDG 562, noise suppression around air conditioning units BLDG 560, construct restrooms BLDG 599 and BLDG 560, secure workspace 35'x35" BLDG on 60'x80' pad, office space BLDG 570.

FY 1991: Soil test facility 20'x48', repair and alterations to fiber optics laboratory BLDG 558, anitfouling work facility 20'x20' BLDG 1307, relocate hydraulic laboratory, install area and parking lighting, storage shed BLDG 569, concrete mix shed BLDG 558, alterations to: boiler system BLDG 562, DOL Pit BLDG 595, wind tunnel BLDG 564, corrosion pier BLDG P22.

NAVY PUBLICATION AND PRINTING SERVICE
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
G001	Other Equipment Purchases Costing Under $1M each		10.1		3.0		8.0		8.4
G002	Purchase of Major ADP Equipment System (PRMIS II)		.5		7.2				
G003	Minor Construction		.7		.2		.8		.6
	Grand Total Navy Publication and Printing Service		11.3		10.4		8.8		9.0

IF EXHIBIT ACP-1
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ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Publication and Printing Service/NPPS	C. ACP-1 Line No. & Item Description G001 - Other Equipment Purchases Under $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Printing Equipment			10,071			3,024			7,971			8,354

Narrative Justification:

FY 1989 - FY 1991 capital equipment funds will be used to purchase various automated publishing systems, high speed electronic printing systems, and scanning equipment in support of our continuing expansion to electronic printing. A good portion of the program is devoted to the Navy Automated Publishing System (NAPS) which is the overall concept for all initiatives in electronic information storage, retrieval, multi-media output and distribution of navy printing and publishing. NAPS incorporates state-of-the-art publishing and printing technologies for transition to a digital technical information database with a print-on-demand capability. NAPS will integrate independent data bases to process information utilizing electronic preparation, production, and distribution of full page images. Various automated systems will be procured by NPPS to implement the NAPS concept within Navy. These automated systems will include publishing systems to accept the digital data for preparation of documentation for final production; scanning systems for the conversion of existing hardcopy data to digital format; storage and retrieval systems to access and print digital data; and high speed electronic printing systems to output digital data on demand. As NPPS continues to migrate to an information processing entity, conversion of traditional environments is required.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Publication and Printing Service/NPPS	C. ACP-1 Line No. & Item Description G002 - Purchase of Major ADP Equipment - PRMIS II

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Hardware						6,709						
Software												
Minor Construction						400						
Development Cost			500			80						
Total			500			7,189						

Narrative Justification:

PRMIS II will be a total management information system which will replace the present automated cost and financial and reprographics subsystems (PRMIS I), and automate a number of manual functions. The total system will be a combination of batch and interactive programs meeting functional and performance requirements specified. PRMIS II will meet the management information needs of NPPS headquarters and facilities throughout the continental United States and abroad. The basic objectives of PRMIS II are to satisfy NPPS functional requirements; eliminate the deficiencies of the current system; produce a financial management and accounting system which meets NAVCOMPT and GAO standards; employ advanced technologies now being widely applied in the development of modern automated business and information management systems; be fully automated; provide on-line interactive data entry, update and query of a set of distributed data bases; and utilize source data automation equipment in the job entry and production operations.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Navy Publication and Printing Service/NPPS	C. ACP-1 Line No. & Item Description G003 - Minor Construction

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Minor Construction			696			225			785			624

Narrative Justification:

FY 1989 - FY 1991 minor construction funds will be used to modify existing space to accommodate electronic page printing and automated publishing systems which support the various Navy Automated Publishing Systems (NAPS) initiatives.

ORDNANCE FACILITIES
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
H001	CAD System	2	.1						
H002	CAD Workstation	2	-						
H003	CAD System	1	-						
H004	CAE Design Workstation	1	-						
H005	CAD Station - Training	1	.1						
H006	CAD Station - DIT-MCO	1	.1						
H007	CAD/CAM Equipment	1	.2						
H008	CAD/Film Plotter	1	.1						
H009	CAD/CAM System					1	.1	1	.1
H010	CAD Workstation					1	-		
H011	CAD/CAM Upgrade					1	.2		
H012	CAD/CAM System Upgrade					1	.1		
H013	CAD Workstation					2	-		
H014	CAD/CAM Equipment					2	.2		
H015	CAD/CAM System					2	.1		

ORDNANCE FACILITIES
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
H016	Disk Drive 600MB (CAD/CAM)					1	-		
H017	CAD Upgrade							1	.1
H018	CAD System Equipment							1	.1
H019	CAD/CAM Printer							1	.1
H020	CAD Software Upgrade							1	.1
	Subtotal CAD/CAM Equipment/System		.6				.7		.5
H021	DPS -8 Mainframe Upgrade	1	1.5						
H022	Office Automation Upgrade	1	1.6		.4				
H023	Honeywell Replacement	1	1.1						.4
H024	Distr Information System Upgrade	1	.3						
H025	Honeywell Upgrade	1	1.0		.5				2.0
H026	VAX Computer System			1	1.0				
H027	Scientific and Eng Computing			1	1.5		1.6		1.2

ORDNANCE FACILITIES
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988		FY 1989		FY 1990		FY 1991	
		Quant	Total Cost	Quant	Total Cost	Quant	Total Cost	Quant	Total Cost
H028	Central Office Automation			1	.8		.6		
	Subtotal - ADP Systems Greater than $1 M		4.5		4.2		2.2		3.6
H029	PC Board Manufacturing System			1	0.4				
H030	I/O Mark 50 Torpedo Facility MILCON P-748					1	.1		
	Subtotal - New Capability Equipment				.4		.1		
H031	High Density Storage System	1	.5		.4		.5		.5
H032	Local Area Network	1	.3		.3		.3		
H033	Torpedo Disassembly Robot	1	.1						
	Subtotal - Modernization Initiatives		.9		.7		.8		.5
H034	25-Ton Portal Crane	1	3.5						
H035	Phone System	1	1.9	1	1.8				
H036	Wire Harness System	1	1.5						

ORDNANCE FACILITIES
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
H037	Hydrospin Rebuild	1	1.1						
H038	75-Ton Cranes Truck Mounted	3	1.1						
H039	150 Gallon Mixer	1	1.0						
H040	Lining Machining	1	1.0						
H041	Vertical Mixer	1	1.0						
H042	Command Comm System			1	1.0		5.0		6.0
H043	Technical Collateral Equipment for MILCON P059			16	2.1	16	5.0		
H044	Railcars (Flatcars/Boxcars)					10	0.5	8	.5
	Subtotal - Equipment Greater Than $1M		12.1		3.9		10.5		6.5
H045	Ordnance Management System		1.1		1.1		.7		
H046	Industrial Logistics Support MIS		1.5		1.1		.9		.7
H047	Gun System Eng Support System		.6		.5	.2		.1	
	Subtotal - MIS Greater Than $1M		3.2		2.7		1.8		.8

ORDNANCE FACILITIES
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
H048	Equipment Less Than $1M		53.3		32.1		25.1		31.4
	Subtotal - Equipment Less Than $1M		53.3		32.1		25.1		31.4
H049	Mgmt Info Sys Less Than $1M		1.5		1.8		.4		.2
	Subtotal - MIS Less than $1M		1.5		1.8		.4		.2
H050	Minor Construction		5.9		6.5		6.6		6.6
	Subtotal - Minor Construction		5.9		6.5		6.6		6.6
	GRAND TOTAL		82.2		52.3		48.2		50.1

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Yorktown	C. ACP-1 Line No. & Item Description H009 - CAD/CAM System

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment							1	110	110		150	150

Narrative Justification:

The CAD/CAM system will give the activity its first computer aided drafting capability. This system will be a multi-user system for digitizing, developing, manipultaing, and producing hard copies of engineering drawings of weapon systems under the in-service engineering control of the Command.

No productivity gains are anticipated in the first year base on the workload to establish the data base. However, in the second and subsequent years, annual productivity savings are estimated to be $175K.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane	C. ACP-1 Line No. & Item Description H010 - CAD Workstation

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment							1	24	24			

Narrative Justification:

The CAD/CAM workstation will be used to automate maintenance and to prepare engineering drawings and technical data packages for physical security equipment. Presently, drafting, design, engineering and graphic generations are performed manually. The use of CAD equipment would enhance productivity by a factor of three.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane	C. ACP-1 Line No. & Item Description H011 - CAD/CAM Upgrade

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment							1	250	250			

Narrative Justification:

This is an automatic system which electronically prepares designs in graphic form, performs mathematical modeling of the design's performance, performs rapid modifications to the design, and quickly repeats the design, model, evaluate loop. The system will automatically produce the construction prints and generate the control programs for the numeric-controlled machining equipment. This will provide rapid fabrication of evaluation prototypes which confirm the model's accuracy and which will be used for requisite safety and performance testing. Should the prototype testing reveal deficiencies in satisfying the design specifications, the engineer or draftsman would modify the design and repeat the loop, taking into consideration those factors shown to be sensitive or inadequate during test. When the design is released for service use, the design need only have annotations made; there would be no need to re-enter the design.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)												A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL		
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane							C. ACP-1 Line No. & Item Description H012 - CAD/CAM System Upgrade							
	FY 1988			FY 1989			FY 1990			FY 1991				
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost		
Equipment							1	80	80					

Narrative Justification:

This is an additional workstation to upgrade the present CAD system which is used to support ALQ-99 engineering/ production requirements. All engineering/production schematics, diagrams, drawings, etc. are generated using this system. Due to increase workload, this additional workstation is necessary.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane	C. ACP-1 Line No. & Item Description H013 - CAD Workstation

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment							2	17	34			

Narrative Justification:

These workstations eliminate the duplication that exists between engineering sketches or conceptual drawings and final documentation prepared by CAD operators of draftsmen. The engineering sketches exist within a system or program data base and are used by the CAD operator in generating the final design documentation. This will allow design engineers and technicians to generate design concepts and models in support of electronic systems development. Analysis may be performed on mechanical elements and design informtion or concepts can be readily used by documentation technicians to facilitiate developing the finished documentation.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVORDSTA Louisville	C. ACP-1 Line No. & Item Description H014 - CAD/CAM Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment							2	90	180			

Narrative Justification:

These four workstations are to augment the existing CAD/CAM system to meet the needs of additional users and increase capabilities due to expanded workload.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/MPNSTA Earle	C. ACP-1 Line No. & Item Description H015 - CAD/CAM System

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Software Systems							2	45	90			

Narrative Justification:

The CAD/CAM system will allow the station to handle additional workload associated with the Handling Center Department's designation as the "Center of Excellence" for all NAVSEA and NAVAIR containers and handling equipment.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Earle	C. ACP-1 Line No. & Item Description H016 - CAD/CAM Disk Drive (600MB)

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Disk Drive							1	25	25			

Narrative Justification:

A 600 MB disk drive is needed to accommodate the additional demand on the existing CAD/CAM system.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVUSEAWARENGSTA Keyport	C. ACP-1 Line No. & Item Description H017 - CAD Upgrade

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total	Quant	Unit Cost	Total Cost
Equipment										1	125	125

Narrative Justification:

This project will upgrade the Computervision portion of the CAD system by enhancing capabilities and lowering maintenance costs. Productivity will be increased y the system enhancements. It will reduce the space requirement, eliminate the need for air conditioning, reduce training time, and maintain a higher level of expertise among the users. In 5 years, the updrage will save at lease $159K in maintenance costs.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVORDSTA Louisville	C. ACP-1 Line No. & Item Description H018 - CAD System Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment										1	76	76

Narrative Justification:

This project will maintain, expand and integrate current and future engineering computer aided applications to improve task productivity, to issue of quality products and to achieve "design to manufacturing" capability. The CAD system is used to develop, prepare and revise mechanical detail, assembly, printed wiring board and all other types of engineering drawings required to support fleet and logistic procurement and manufacturing requirements.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVSHIPWPNSYSENGSTA Port Hueneme	C. ACP-1 Line No. & Item Description H019 - CAD/CAM Printer

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment										1	90	90

Narrative Justification:

This project will provide capability to produce up to 11" X 45" foldout pages for Navy TM's. Currently, this capability is being performed by a contractor; procuring this printer would reduce the lead time of obtaining these pages and reduce the cost of production.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Earle	C. ACP-1 Line No. & Item Description H020 - CAD Software Upgrade

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment										1	75	75

Narrative Justification:

This software will enhance the capabilities of the mainframe by improving performance by 20% and provide better response time. Improved features include hidden line removal, solid modeling an improve interface capabilities of UNIX to CGOS file transfer.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVSHIPMPNSYSENGSTA Port Hueneme	C. ACP-1 Line No. & Item Description H022 - Office Automation

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment - Phase I & II	1	567	567		360	360						

Narrative Justification:

The Office Automation System will provide additional administrative support and improve productivity. Additional capabilities are in the areas of electronic mail, calendar management, file sharing, word processing, spreadsheets, database management, and graphics. Estimated labor savings are approximately 15%, based on elimination of manual retyping of correspondence, automatic filing, etc.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)												A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL	
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Seal Beach							C. ACP-1 Line No. & Item Description H023 - Honeywell Replacement						
	FY 1988			FY 1989			FY 1990			FY 1991			
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost	
Equipment - Phase I & II	1	1,081	1,081								402	402	

Narrative Justification:

The Honeywell DPS-8/49D Business and Logistics (B&L) host computer is being replaced because of increased on-line users and it will be nearing the end of its useful life in the FY 89-90 timeframe.

The B&L data processing environment at the station is rapidly evolving from batch processing to full on-line transaction processing through a data base management system. With a local area network now installed which allows all four sites to access B&L, new users are being added on a continuous basis.

The DPS-8/49D is a mid-range computer, originally purchased as an 8/44D, with batch processing in mind. Without the capacity to support the 1,000-2,000 users expected in FY 89, performance will degrade, especially in response time. The previous average of a two seconds response time has become 10 to 15 second in FY 1988. This high response time coupled with excessive downtime will rsult in considerable productivity losses. Rather than being on effective and efficient system, the DPS-8/49D will generate backlogs, overtime, and downtime, and downtime until it is replaced with state-of-the-art equipment.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane	C. ACP-1 Line No. & Item Description H025 - Honeywell Processor Upgrade

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment - Phase I & II	1	1,002	1,002		500	500					2,020	2,020

Narrative Justification:

The current management systems will not meet requirements to support the activity's mission for the next five years. This upgraded system will be able to handle additional users and new applications by utilizing the additional processor and communications capability. The proposed upgrades will permit the addition of approximately 50 users per year. The personnel savings are calculated at 18% per year for users.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVSHIPWPNSYSENGSTA Port Hueneme	C. ACP-1 Line No. & Item Description H026 - Computer VAX 8800

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment				1	999	999						

Narrative Justification:

The purchase of a VAX 8800 computer system is needed to support the projected workload particularily as the In-Service Engineering Agents for shipboard weapons systems. This computer acquisition will provide a complete system which enable the station to accomplish the essential tasks assigned. Otherwise, the work must be performed through contractor support. The cost avoidance would be approximately $1,430K.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Seal Beach	C. ACP-1 Line No. & Item Description R027 - Scientific & Engineering Computing

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment - Phase I						1,544						
Equipment - Phase II & III									1,640			1,250

Narrative Justification:

The Scientific and Engineering Computing System is designed to provide efficient management and cost effective computing and communication services to all technical departments within the station. It will assure adequate computing capacity through maximum compatibility of equipment, software, and communications, and planned future investments. It will provide engineering and scientific computing capabilities to meet user needs on a cost-justified basis, and manage and control the use of external support services for maximum effectiveness.

The system will provide a single, comprehensive and consistent source of data of optimum statistics for combat systems assurance of U.S. Navy Battle groups, platforms and systems. Currently, data is collected by various Navy commands, activities, agencies and contractors, and is analyzed and reported using various methodologies which are not consistent. Without procurement of this system, information assets will remain underutilized, data base implementation will remain diffifult, and additional programming staff will be reuired to meet the station's needs.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane	C. ACP-1 Line No. & Item Description H028 - Central Office Automation

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment				1	980	980		600	600			

Narrative Justification:

This is a centralized Office Automation System which will alleviate high input/output burden from the mainframe computers while allowing for standardization in filing, report distribution, calendaring, etc. Savings are derived from prevention of purchasing an estimated $50K software yearly. An additional estimated savings of $20K each year is for mail costs, telephone calls and 2% productivity improvement for 300 users in time lost due to inefficient methods at $25 per hour.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVORDSTA Louisville	C. ACP-1 Line No. & Item Description H006 - PC Board Manufacturing System

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment				1	410	410						

Narrative Justification:

The circuit board manufacturing system will provide the capability to manufacture prototype and small batchs of plated through hole printed circuit boards needed for prototype projects and to replace boards damaged beyond repair. Projects that will be supported by this system will be:

The MK 172 Amplifier
5"/54 Gun Mount
Digital Upgrade Program
MK 76 Amplifier
MK 6 Velocimeter
Support and Test Equipment Engineering Program (STEEP)
Super ARBOC Program
Limited support on the PHALANX CIWS

This project would reduce the turnaround time from about one year for procurement to about a month with in-house manufacturing.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)												A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Charleston						C. ACP-1 Line No. & Item Description H030 - Initial Outfitting of MILCON P-748						
	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment							1	150	150			

Narrative Justifiction:

MILCON P-748, the MK 50 Torpedo Facility, was congressionally approved for the FY 89 MILCON program. The initial outfitting efforts, including furnishings and other miscellaneous items, are required for the facility to be usable.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Charleston	C. ACP-1 Line No. & Item Description H031 - High Density Storage System

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment - Phase I & II	1	490	490		380	380						
Equipment - Phase III & IV								490	490		490	490

Narrative Justification:

The high density storage system is a multifaceted system which allows movement of stored components without having to relocate them. This system will support all ordnance programs within the activity and its main purpose is to reduce the handling/storage time. Other resulting factors include safety improvement and better inventory control of available assets. The estimated annual savings is $74,720 from reduced inventory and handling cost.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)												A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Charleston						C. ACP-1 Line No. & Item Description H032 - Local Area Network						
	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment - Phase I & II	1	300	300		300	300						
Equipment - Phase III								300	300			

Narrative Justification:

The local area network will provide computer link-up within the activity to enable all computer systems to be tied together with the mainframe. This system will support all departments and provide electronic mail distribution. Currently, there is no interface remote terminals and computer systems and the telephone system is incapable of handling increased demand for the many systems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVWPNSUPPCEN Crane	C. ACP-1 Line No. & Item Description H035 - Telecommunications Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment	1	1,921	1,921	1	750	750						

Narrative Justification:

FY 1988 - This project wil improve the telecommunication equipment and serivces to sixteen (16) buildings/departments within the activity by installing digital private branch exchanges in buildings where existing telecommunications systems are inadequate to perform the mission requirements of the activity. The electronic key systems being replaced are too small for building needs and cannot be expanded to meet these needs. These electronic key systems will be reused in buildings which currently have single line phones installed, to allow for interbuilding communications and central attendant service.

The Department of the Navy has undertaken a program to enhance the telecommunications network by implementing Integrated Services Digital Network by 1990. Maintenance of the older 1A2 systems will be eliminated and savings would be approximately 3 manyears.

FY 1989 - Procurement of Remote Line Concentrating Modules (RLCM) is required to improve telecommunications services in the following areas; B-13, B-2930 Complex, B-3031 & Warehouse Area, B-2540 Complex, B-2045/B-2087/B-2088 and Ordnance Test Area. Current cable plant is insufficient to implement the single line phone concept and the most cost efficient and timely alterntive is to procure RLCM's and associated span line equipment. Many of the buildings have telecommunications systems which are overloaded (120% of capacity) and increases in work area personnel efficiency is adversely effected by lack of telecommunications circuits.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Seal Beach	C. ACP-1 Line No. & Item Description H042 - Command Communication System

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment - Phase I				1	1,000	1,000						
Equipment - Phase II & III								5,000	5,000		6,000	6,000

Narrative Justification:

The station consist of four sites: Seal Beach, Corona, Fallbrook, and Pomona, and completion of its misssion requires accurate and timely transmission of voice and data between the station and other DoD installations, and with public and private communications networks. The current communications system is a myriad of equipment ranging in age from seven to fifty years depending on the site. There are frequent failure of the current system due to the age of the equipment. Transmission is poor with plenty of cross-talk and cross connect. This system will enable the station to integrate voice and data communications.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVORDSTA Indian Head	C. ACP-1 Line No. & Item Description H043 - Technical Collateral Equip. - MILCON P 059

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment				16		2,071	16		3,499			
Installation								1,545	1,545			

Narrative Justification:

MILCON Project P059 is a Mix, Assemble and Curing Facility to support the MK 103, Warhead for the MK 46 torpedo, MK 122 Warhead for the MK 50 torpedo, MK 115 Warhead and MK 125 Warhead for Standard Missile, Walleye I and II. The following is a listing of the technical collateral requirements to support this project:

FY 1989 Items Description	Total Cost	FY 1990 Items Description	Total Cost
Temperature Contol System	120	Walkie Stackers	75
Electronic Scale System	85	Initiator Casting Stand	65
Conveyer System	50	Fume Removal System	50
Casting Bell	375	Nitrogen Generator	100
Integrated Storage & Retrieval	185	Curing Oven	185
Stacking System	85	Hoist System	100
Positioning Arm	155	Mixer Support Equipment	309
Security System	90	Dust/Fume Removal System	165
IDS-Assembly System I	300		
IDS-Assembly System II	325		
IDS-Mix Building	300		
Mixer, Fire Protection System	100		
Mixer Instrumentation System	250		
Mix Can Transport Vehicle	350		

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/WPNSTA Yorktown	C. ACP-1 Line No. & Item Description H044 - Railcars

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Boxcars							10	50	500			
Flatcars										10	62.5	500

Narrative Justification:

Railroad cars over 50 years old must be replaced because they have reached their limit in usage and are restricted from operation. At the station, a number of railroad flatcars and boxcars will be restricted from operation in 1990 and the remaining railcars will be restricted by 1995.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)												A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL		
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE							C. ACP-1 Line No. & Item Description H045 - Ordnance Management System (OMS)							
	FY 1988			FY 1989			FY 1990			FY 1991				
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost		
Management Information System			1,120			1,120			695					

Narrative Justification:

The OMS System is a CNO sponsored program to provide ordnance activities with a state-of-the-art automated information system for managing non-nuclear expendable ordnance. OMS is one of the tools necessary to attain and maintain the Non-Nuclear Ammunition Inventory Accuracy Program goals of 99.5% accuracy and 100% visibility by December as directed by CNO.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE	C. ACP-1 Line No. & Item Description H046 - Industrial Logistics Support MIS

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Management Information System			1,480			1,140			918			670

Narrative Justification:

ILSMIS is a management information system developed by headquarters for Ordnance activities usage in Supply functions. It is designed to enhance automated procurement, and improve direct material, inventory and other supply functions. Anticipated results are increases in activity's productivity by providing prompt and efficient supply services to customers on/off the activities.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE/NAVORDSTA Louisville	C. ACP-1 Line No. & Item Description H047 - Gun System Engineering Support System

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Management Information System			620			520			155			100

Narrative Justification:

This system will address all engineering and technical data related to gun weapons systems and equipment. The data will be incorporated into a single integrated data base addressing, at a minimum: Configuratio status accounting, ORDALT installation management and supply support.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE	C. ACP-1 Line No. & Item Description H048 - Equipment less than $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Equipment less than $1M			53,288			32,064			25,150			31,390

Narrative Justification:

This is the total of all other equipment authorized in the ACP Program during FY 1988 through FY 1991 which are not listed individually in the IF Exhibit ACP-1. These types of equipment include Material Handling Equipment, CESE Equipment, ADP equipment, Alterations/Modifications/Rehab of major equipment, and other equipment which are replacement and/or productivity enhancement equipment.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE	C. ACP-1 Line No. & Item Description R049 - Management Information Sys less than $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Management Information System			1,490			1,822			37			177

Narrative Justification:

This item includes all cost for software development which are greater than $100,000 and are Ordnance Group requirements or individual activity's requirements.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/ORDNANCE	C. ACP-1 Line No. & Item Description H073 - Capitalized Minor Construction

	FY 1988			FY 1989			FY 1990			FY 1991		
	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Capitalized Minor Construction			5,933			6,563			6,669			6,597

Narrative Justification:

This item includes all cost involved in constrution less than $200,000 and is geared towards impvoring productivity of the activity or making it more efficient. The requirements are reviewed regularly by NVSEA 6541 to minotor the necessity of the projects and ensure the execution of the program.

NAVY PUBLIC WORKS CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
I001	Telephone Switch	1	7.5						
	Total ACP Equipment Costing Over $1M Each	1	7.5						
I002	CAD/CAM Equipment		.3				1.8		1.5
I003	Portal Crane (75 TON)	1	5.0						
	Total Modernization Initiatives		5.0						
I004	Other Equipment Purchases Costing Under $1M Each		28.5		28.7		23.9		25.0
I005	Minor Construction Projects		11.9		8.9		7.3		8.4
I006	Other Management Information Systems Costing Under $1M Each						.8		.5
	Total Program		53.2		37.6		33.8		35.4

IF EXHIBIT ACP-1
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ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Public Works Centers	C. ACP-1 Line No. & Item Description I002 - CAD/CAM Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item									1,800			1,500

Narrative Justification:

Planned procurements represent both phased supplements to existing Graphic Engineering Mapping System (GEMS) systems and new GEMS systems at the PWCs. The computer-aided design and drafting (CADD) system increases productivity by producing a more thorough engineering analysis, job specific specifications with more design alternatives for customers, improving quality control, and improving the availability of information on the status of the project budget. Other advantages to having the CAD/CAM equipment include the ability to level out peaks and valleys in personnel needs, completing portions of work more promptly and establishing standard procedures to aid in work completion.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Public Works Centers	C. ACP-1 Line No. & Item Description I004 - Other Equipment Purchases Costing Under $1M Each

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item						28,736			23,968			24,985

Narrative Justification:

Anticipated procurements of Civil Engineering Support Equipment (CESE), material handling equipment, industrial plant/shop equipment automated data processing equipment, office automation equipment, and administrative equipment required for mission accomplishment at eight Public Works Centers. CESE buys items such as trucks, trailers, compressors, crane crawlers, loader scoops, electric welders, sweepers, crane trucks, and crane cruisers are acquired in order to update aging vehicle fleets and replace antiquated equipment. Timely replacement of aging equipment affords the centers minimum maintenance costs, reduced downtime of vehicles, increased fleet availability, improved reliability and customer satisfaction. The reasons for procurements of material handling equipment and industrial plant/shop equipment are to replace existing inventory because it exceeds life expectancy requirements, existing equipment inventory is beyond economical repair and to increase productivity over existing equipment. Planned ADP/OA equipment buys will provide improvements to existing hardware systems that interface micros to minicomputers, aid in the implementation of new systems to improve document retention and retrieval in Comptroller and Material Departments, increase productivity by automating time consuming/redundant tasks through inter-connection and integration of terminals/printers and additional telecommunications capability. Planned administrative equipment purchases consist of microfilm and microfiche equipment, automated filing equipment, copiers, etc., which represent cost effective, labor saving devices that enhance productivity.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Public Works Centers	C. ACP-1 Line No. & Item Description I005 - Minor Construction Projects

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
Completed Projects						8,902			7,275			8,369

Narrative Justification:

To provide funding for maintenance of the plant property of the eight (08) Public Works Centers located at Norfolk, Virginia; Pensacola, Florida; Great Lakes, Illinois; San Diego, California; San Francisco Bay (Oakland), California; Pearl Harbor, Hawaii; Guam, M. I. and Subic Bay, R. P. For example, utility repair projects to improve utilities distribution lines such as steam, electric, water for PWC owned and managed utility systems; improvement projects for industrial shop stores; installing capacitors to improve electrical transmission; constructing loading docks; replacing PCB transformers; installing sprinkler systems; enlarging storage areas for specified buildings and repairing parking lots.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)												A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL		
B. Industrial Fund/Activity Group/Activity NIF/Public Works Centers							C. ACP-1 Line No. & Item Description I006 - Other Management Information Systems Costing Under $1M Each							
	FY 1988			FY 1989			FY 1990			FY 1991				
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost		
End item									800			500		

Narrative Justification:

Planned software developments are for NAVFAC Code 161 task to investigate the data base management system to modify the batch system currently in the Public Works Center Management Information System and produce an on-line relational interactive data base system. The proposal is being prepared presently for presentation to the PWC Business Managers. Addition tasks include enhancing and implementing at other public works centers the ideas piloted and implemented at PWC Pensacola for bar coding information in the Material Department and to implement a facilities support contract system expanded to include construction contracts based upon the contracts system developed by SOUTHNAVFACENGCOM.

NAVAL RESEARCH LABORATORY
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
J001	YAG Laser					1	1.6		
J002	Multilays Facility					1	1.2		
J003	Rutherford Backscattering Facility							1	1.1
J004	Compact Range/Anechoic Chamber							1	1.0
	Total Equipment Over $1M (Category A)					2	2.8	2	2.1
J005	CAD Work Station	2	.3						
	Total CAD/CAM Equipment (Category D)	4	.3					1	.1
J006	Archiving System			1	2.0				
J007	Central Computer Facility Front End Computer			1	.5			1	.5
J008	Cray Memory Upgrade					1	1.0		
J009	Mini-Super Computer					1	.6		
J010	VAX Computer			1	.3				
J011	VAX Cluster CPU					1	.3		

IF EXHIBIT ACP-1
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NAVAL RESEARCH LABORATORY
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
J012	Parallel Processing Computer					1	.3		
J013	Multiple Parallel Processor							1	3.2
	Total Major ADP Equipment System (Category E)			3	2.8	4	2.2	1	3.7
J014	Other Equipment Less Than $1M		12.9		8.6		4.7		4.1
J015	Minor Construction		1.0		1.8		1.8		1.8
	Total Naval Research Laboratory ACP	4	14.2	3	13.2	6	11.5	4	11.8

IF EXHIBIT ACP-1
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ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J001 - Yag Laser

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item							1	1,600	1,600			

Narrative Justification:

NRL's Advanced Materials Fabrication and Technology Steering Committee selected this laser processing system after conducting a survey of research personnel throughout the lab. It was determined that this system would support the type of fabrication technology needed by the research divisions and would satisfy the immediate needs for laser welding, cutting, hole drilling, clodding, tear treating of various materials including thick metals, PC boards, composites, cloth, etc. This research oriented tool is to be used in developmental work for laser applications.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J002 - Multilayer Facility

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item							1	1,200	1,200			

Narrative Justification:

The current printed circuit shop is producing two-sided printed circuit boards of barely acceptable quality and will not produce the circuits designed and required by the research community at the lab. Because these circuits contain more components and operate at high frequencies, a multilayer printed circuit is required. This system is being processed because of the research requirements at the lab, the major overhaul expenses required to keep the present system functioning and the time and expense associated with contracting-out the requirements to produce multilayer printed circuit boards. The time lost in waiting for the boards to be manufactured and the restrictions placed on the artwork by the manufacturer create additional problems for the research community at the lab.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J003 - Rutherford Backscattering Facility

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item										1	1,100	1,100

Narrative Justification:

Nuclear approaches are an essential component to thin film composition/structure analysis. In contrast to other techniques such as Auger sputter depth profiling and SIMS, this facility will provide nondestructive measurements. Surface modifications and thin films are crucial pieces of modern material science/technology. The ability to analyze their composition/structure is mandatory for a viable R&D program. Present capability relies on access to an instrument designed for research on ion beam surface interactions. This facility will be designed for and dedicated to analysis required by the NRL Materials programs.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J004 - Compact Range/Anechoic Chamber

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item										1	1,000	1,000

Narrative Justification:

This facility will serve a large cross section of research users at NRL and will enable NRL to keep abreast of the current technology required by many research programs involved with the design, development, evaluation and fabrication of radio frequency antennas for spacecraft and associated ground station systems. This system will provide the capability to operate in the higher frequency ranges, which is required by new state-of-the-art space systems antennas and will provide test zone dimensions necessary to evaluate space systems of approximately shuttle bay dimensions.

The current large tapered horn anechoic chamber and associated electronic equipment is over thirty years old, some of which is no longer maintainable and is limited by absorber design and configurations to frequencies of less than 18GHz.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J005 - CAD Workstations

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item	2	139	278							1	85	85

Narrative Justification:

The workstation to be acquired in FY 1991, is critical to the overall success of projects involving curcuit design and analysis, more specifically the VHSIC and MIMIC projects. These projects could be negatively impacted by the nonavailability of the capabilities provided by this superworkstation. This equipment provides a high resolution capability for handling complex patterns that represent or visualize information for integrated circuit design and analysis.

A high degree of sophistication is required in order to display multilevel design, combine features from VHSIC and MIMIC projects, and add proximity corrections to processes.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J006 - Archiving Systems

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item				1	2,000	2,000						

Narrative Justification:

NRL's Central Computer Facility (CCF) utilizes a file archiving system to support research efforts. The current archiving system is not available to many CCF users because it cannot be fully integrated into the computer facility. A new archiving system is necessary to provide all NRL computer network users with efficient file storage which automatically moves files between access levels based on frequency of use. Those files required most often will be kept on disk while those used only on occasion will be kept on less expensive tape systems. Besides cost efficiency benefits, the new file archiving system will eliminate the need to migrate many users files off the Cray computer's disk storage when large applications (such as structural and thermodynamic analyses) are being run. Many NRL research efforts will benefit from better file accessibility and reduced run times while the procurement of expensive additional disk storage will be kept to the minimum level required.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J007 - Central Computer Facility Front End Computer

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item				1	500	500				1	550	550

Narrative Justification:

The original front end specifications provided for limited computational resources. The computers were specified to provide access to the Cray. Usage of the front ends has expanded to include numerous software packages and data base systems requiring additional CPU resources. Internal studies as well as evaluations by the vendor have revealed that the computers are saturated much of the time and response time to the user has become intolerable. No amount of fine tuning can alleviate the problem. Front end CPU upgrades are necessary if the CCF is to continue to provide acceptable service to increasing numbers of users.

This computer will supplement rather than replace existing computers.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J008 - Cray Memory Upgrade

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item							1	1,000	1,000			

Narrative Justification:

The current Cray computer has 4 million words of memory. An additional 4 million words is required to accommodate the scientific calculations that require larger matrices of data.

This upgrade will supplement rather than replace existing memory.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J009 - Mini-Super Computer

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item							1	600	600			

Narrative Justification:

A CCF mini-super computer will provide a high performance Unix environment on a super computer like architecture. It will also provide superior tools for code and algorithm development for problems destined for the Cray. With a mini-super, a high speed link to the Cray is possible thus allowing the mini-super to be more useful for graphic applications than the current front end computers. A mini-super computer will supplement the current front end computational capability.

This equipment will supplement rather than replace existing computers.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J010 - Vax Computer

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item				1	300	300						

Narrative Justification:

The Contracts Division is responsible for the generation and administration of all major R&D Service Contracts'. This computer has a larger capacity to handle an increasing number of functional users (Contract Division Personnel) a larger data base, spreadsheets, interactive queries by Laboratory personnel and the potential to interact with other systems currently operating at the Laboratory. Timesharing is currently being used to satisfy requirements, but other requirements of the Laboratory will eliminate this short term solution. The procurement and installation of this equipment will provide more timely generation of contractual documents, will accommodate increased workload and additional functional users.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J011 - Vax Cluster CPU

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item							1	300	300			

Narrative Justification:

The Space Science Division is planning this procurement since it will increase the capabilities of the divisions central computer facility. The current facility supports both scientific and administrative data processing. This equipment will allow the facility to provide a gateway to other computers and to act as a file server for data analysis on NRL computers like the Cray and the Connection Machine. With the acquisition of this system, the division can expect 6 to 20 times the current performance with an even lower operating cost.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J012 - Parallel Processing Computer

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item							1	300	300			

Narrative Justification:

New algorithms have been developed recently for dealing with the problem of detection of small target signals in the presence of larger clutter returns. The required speed of the process has demanded the use of dedicated hardware to do a very specific task. In some environments, it is desirable to change some of the parameters of the process in an adaptive fashion or to adapt the entire process as the environment changes rapidly. The parallel processing computer would be used time processor for a radar utilizing these modern algorithms, allowing dynamic reconfiguration of the process; since it as the real would not require hardware changes, but merely a redirection of the process flow or a change in parameters of the process, all under real time software control.

In addition, as a development tool, the software implementation of the algorithms would provide a basis for quickly evaluating new techniques as they are developed.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J013 - Multiple Parallel Processor

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item										1	3,150	3,150

Narrative Justification:

Currently, NRL scientists are conducting advance research into new, more efficient methods of processing special scientific problems such as fluid dynamics, plasma physics, signal processing, laser propagation, and ionospheric modeling. Multiple parallel processing is required to allow access to an adequate CPU for computation of these unique scientific problems. These experiments are now being done on a relatively small scale (16,000 processor connection box). The culmination of this research will be a massive parallel processing center consisting of roughly 65,000 processors. The multiple parallel processing center would allow these special scientific problems access to the Cray Super Computer, thus increasing the speed, efficiency, and quality of applicable research. This would also improve productivity of the Cray by allowing more types of scientific applications access. Since this investment would establish massive parallel processing as a service within NRL's Research Computation Center, many more NRL scientists, as well as other agencies in the research community, would be able to use the facility on a cost-reimbursable basis.

This investment would replace the current experimental processing facility.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J014 - Other Equipment Less Than $1M

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item			12,908			8,616			4,718			4,127

Narrative Justification:

The Naval Research Laboratory is a highly and sophisticated research center requiring the state-of-the-art technology to satisfactorily accomplish its mission. Research and development timetables and rapid equipment obsolescence require NRL to maintain its capital investment program. Use of inadequate equipment would result in higher costs, time delays and limit the Laboratory's ability to deal with advanced technology problems and taskings. To avoid this impact, NRL invests in equipment, instruments and labor saving devices in order to improve employee productivity, enhance the quality of research and control costs. Examples of items to be purchases are: (1) electron energy-loss transmission electron microscope with cryostage, (2) X-ray photoelectron spectroscopy system, (3) oscilloscope and related data acquisition instrumentation, (4) secondary ion microanalyzer, (5) controlled waveform digitizer, (6) high resolution scanning multiprobe facility, (7) commercially available laser system, (8) optical disk data storage system, (9) advanced minicomputer, (10) 3-D sensor and physical data display, (11) Hamanatsu Temporal Analyzer, (12) DNA Synthesizer, (13) items to equip the pulse power facility in support of national nuclear effects simulation programs, and (14) items to equip the Coordinated Electronic Warfare Simulation Laboratory (MILCON project to open in mid FY 1989).

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/Naval Research Laboratory/NRL	C. ACP-1 Line No. & Item Description J015 - Minor Construction

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Total	Quant	Unit Cost	Total Cost
End item		1,050	1,050		1,800	1,800		1,800	1,800		1,800	1,800

Narrative Justification:

NRL's aging physical plant requires renovations to continue to provide a modern facility capable of supporting high level research. In addition, some areas of research create unique requirements that existing facilities cannot meet. Examples of planned minor constructior items are: (1) fire research facility for ongoing program in ship survivability, (2) chemical defense research structure (also related to ship survivability), (3) facility for classified Krypton/fluorine laser research, (4) installation of an AFFF separator required for compliance with environmental regulations, (5) construction of office space, (6) various rehabilitation and safety improvement projects, (7) hydraulic laboratory, and (8) fire test deck.

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
	ACP EQUIPMENT $1M OR MORE & NOT INCLUDED IN OTHER CATEGORIES								
K001	CRANES, PORTAL	1	3.4	4	16.2	8	28.0	2	7.3
K002	CRANE, 150 TON OET			1	1.2				
	SUBTOTAL ACPE $1M OR MORE	1	3.4	5	17.4	8	28.0	2	7.3
	MODERNIZATION INITIATIVES								
K003	3M MICROGRAPHICS SYS	1	0.3						
K004	DIESEL GENERATOR, 1500KW	1	0.4						
K005	BEDWAY DOVETAIL GRINDER	1	0.6						
K006	WHEELER MACHINE	2	0.3					1	0.3
K007	2000KW LOAD BANKS	2	0.3						
K008	CINTIMATIC 5VC	1	0.2						
K009	CNC MILLING MACH	1	0.2						
K010	CNC TURRET LATHE	1	0.1						
K011	TIMBER SIZER	1	0.4						
K012	DATA MILL	1	0.4						
K013	OPTICAL COMPARATOR	1	0.1						
K014	CRANE, TRUCK	1	0.4						
K015	ALTS/MOD/REHAB		4.7						
K016	AIR COMPRESSOR			1	0.2				
K017	CNC MACH CNTR			1	0.2				

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K018	HORIZ MACH CNTR			1	0.4				
K019	RADIOGRAPHY SYS FOR FOUNDRY			1	2.0				
K020	CRANE, BRIDGE			3	1.0	1	0.3		
K021	CHILL WATER UNIT					2	0.4		
K022	1000KW POWER SUPPLY					2	0.3		
K023	CNC TURNING CNTR					1	0.2		
K024	AUTO MAT'L STORAGE AND RETRIEVAL					1	3.7		
K025	HULL BLASTER, CLOSED CYCLE (AUTO)					2	1.3		
K026	CNC TOOL GRINDER							1	0.2
K027	CNC PUNCH							1	0.4
K028	BENDING ROLL							1	0.3
K029	PLASMA/OXYGEN CUTTING SYSTEM							1	1.8
K030	MILLING CTR, CNC, DOUBLE COLUMN							1	1.3
	SUBTOTAL MODERNIZATION INITIATIVES		8.4		3.8		6.2		4.3
	NEW OR EXPANDED TECHNIQUES, CAPABILITIES, CAPACITIES								
K031	RC STAGING HOUSE/MAIN COOL PUMP	2	0.2						
K032	MOCK-UP, MAIN COOL PUMP	2	0.2						
K033	MOCK-UP, PUMP TRAINING, 1/4 HULL	1	0.3						
K034	MOCK-UP, SHIELDING TRAINING	1	0.2						

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K035	TEMP REACTOR WATER COOLING	3	0.5						
K036	LOAD BOXES, 2000KW	4	0.5						
K037	COLLATERAL EQUIPMENT, MCON P620	1	2.7			1	1.5		
K038	PIPED-IN GRIT SANDBLAST	1	0.6						
K039	FTIR ANALYZER	1	0.1						
K040	ELECT DISCH MACH CNC	1	0.3						
K041	WATER JET CUTTING SYSTEM	2	0.5						
K042	UNI-TURNING MACH CNC	1	0.2						
K043	PRESS BRAKE 300 TON	1	0.3						
K044	MACHINING CTR CNC	1	0.2						
K045	BILGE TK CHEM CLEANING SYSTEM	1	0.3						
K046	SEA MULES	2	0.4						
K047	BABBITTING	1	0.3						
K048	VACUUM GRIT REMOVAL	1	0.4						
K049	HAZARD MATERIAL STORAGE	1	0.5						
K050	TRAILER MOUNTED WHEELERS	1	0.4						
K051	HORIZONTAL BORING MILLS	1	2.0						
K052	BOILER, BARGE MOUNTED	1	5.5						
K053	TRAILER, PURE WATER 5000 GAL.	1	0.2						
K054	FLOATATION DEV (DMP)	2	5.1						
K055	PROP SHAFT HANDLING TABLE	1	0.3						
K056	MCP MOCK-UP	1	0.2						
K057	HULL ACCESS ENCLOSURE	1	0.3						

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K058	NON-NUC SUPPORT SYS	4	0.5						
K059	DD4 SVC PLATFORM	1	0.2						
K060	SPECIAL TOOLING DMP	5	0.3						
K061	SHIELDING MOCK-UP	1	0.2						
K062	IN-DOCK PLATFORM	3	0.4						
K063	NUC HVAC, DMP	1	0.3						
K064	HYDROVAC, NUC	1	0.3						
K065	CNC MACHINING CENTER, DOUBLE COL	1	2.5						
K066	CUTTING MACHINE, CANAPY SEAL	2	0.2						
K067	RC ACCESS HOUSE/MAIN COOL PUMP	2	0.2						
K068	DMP SUPPORT	1	17.5						
K069	PITCHONETEK	1	0.2	1	0.2				
K070	REACTOR PLANT COOLDOWN SYSTEM	1	0.3	1	0.3				
K071	PUMP/VALUE TEST FACILITY UPGRADE	1	1.5	1	1.3				
K072	BUOYANCY TANKS FOR SSN-688 CLASS			4	0.4				
K073	TURNING CENTER 54" CC			2	0.7				
K074	RING ROLLING MACH			1	0.8				
K075	6" BORING BARS			1	0.2				
K076	BORING MACHINE, PORTABLE			1	0.2				
K077	TEMPERING FURNACE			1	0.3				
K078	REMOTE WORK STATION			1	0.4				
K079	NUC HVAC			2	0.3				
K080	LOCAL CALIBRATION STANDARDS			1	0.1				

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: ALL NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K081	MCP MAIN FLANGE CUTTING MACH					2	0.2		
K082	REACTOR ACCESS ENCLOSURE					1	1.2		
K083	DOCKSIDE REFUELING ENCLOSURE					1	0.9		
K084	CRANE, 10 TON OET					1	0.2		
K085	PLTFM SHAFT/PROP PLTFM					1	0.8		
K086	DIESEL ENGINE FLUSHING RIG					1	0.2		
K087	DRYDOCK SUPPORT PLATFORMS					2	0.2		
K088	DD2 S6G EQUIPMENT					1	2.0	1	1.9
K089	RAMP					1	1.7	1	1.7
K090	WATER PIT FACILITY							2	2.3
K091	STEAM DUMP CONTROL, 688 CLASS							2	0.2
K092	REPLACE LAMINATING PRESS							1	0.2
K093	RADIAL DRILL 15" X 14"							1	0.2
K094	VERTICAL MACHINING CENTER							1	5.4
	SUBTOTAL NEW OR EXPANDED TECHNIQUES, CAPABILITIES, CAPACITIES		47.3		5.2		8.9		11.9
	CAD/CAM EQUIPMENT AND/OR SYSTEMS								
K095	CAD, CODE 365, PHASE I	1	0.4						
K096	MISC. CAD/CAM	1	0.1						

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K097	CAD PLOTTER	1	0.1						
K098	CAD/CAM IMPROVEMENTS	6	0.2			11	0.9	5	0.3
K099	CAD/CAM EXPAND-3					1	0.9		
K100	CAD/CAM EXPAND-4					1	0.5		
K101	CAD/CAM SYSTEMS					VAR	0.5	VAR	2.3
	SUBTOTAL CAD/CAM EQUIPMENT/SYSTEMS		0.8		0.0		2.8		2.6
	MAJOR ADP EQUIPMENT/SYSTEMS								
K102	TRANSPORTATION DATA SYSTEM	1	0.1						
K103	APS UPGRADE	1	0.6						
K104	EFT/CODS/SABRS	1	0.4						
K105	PRISM	1	0.9						
K106	SLIMS COMPUTER	1	0.4						
K107	HW DATANET PROC	1	0.1						
K108	GROUP TECH	1	0.6						
K109	MED COMPUTER SYS	1	0.5						
K110	APADES	1	0.7						
K111	AUTO TOOL CONTROL SYSTEM (ATCS)	2	1.4	1	0.9				
K112	HW FRONT END PROCESSOR	1	0.1	1	0.1				
K113	HW DISC	1	0.2	1	0.2				

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 *PRESIDENT'S BIENNIAL BUDGET*
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: ALL NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K114	LOGMARS (PHASES I & II)	1	0.2			1	0.2		
K115	HONEYWELL AUGMENTATION		6.4		12.3		1.1		2.9
K116	LOCAL AREA NETWORK SYSTEM	VAR	0.4	VAR	0.6	VAR	.8	VAR	1.4
K117	MISC ADPE	VAR	2.1	VAR	2.1	VAR	.3	VAR	2.0
K118	MINI COMPUTER			1	0.3				
K119	TIME AND ATTEND PH II			1	0.5				
K120	EDMICS					1	3.5	2.0	5.7
K121	NUCLEAR WORK MGT SYS					2	0.5		
K122	SUPERVISOR'S DESK			VAR	1.4	VAR	4.3	VAR	2.4
K123	PRODUCTION MIS						7.1		7.5
K124	RELATIONAL DATA BASE							1	0.7
K125	COSMOS II							VAR	0.3
K126	COSMOS I							VAR	0.2
K127	FASS UPGRADE							1	0.8
	SUBTOTAL MAJOR ADP EQUIP/SYSTEMS		15.1		18.4		17.8		23.9

EXHIBIT ACP-1

DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(DOLLARS IN MILLIONS)

ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

LINE NO.	ITEM DESCRIPTION	FY 1988 QTY.	FY 1988 TOTAL COST	FY 1989 QTY.	FY 1989 TOTAL COST	FY 1990 QTY.	FY 1990 TOTAL COST	FY 1991 QTY.	FY 1991 TOTAL COST
K128	ALL OTHER ACP UNDER $1.0M		60.4		36.2		10.8		29.9
K129	MINOR CONSTRUCTION PROJECTS		5.1		7.4		5.4		5.2
	MANAGEMENT INFO SYSTEMS $1.0M OR MORE		0.0		0.0		0.0		0.0
K130	OTHER MGMT INFO SYSTEMS UNDER $1.0M		0.3		0.7		1.1		0.6
	NAVAL SHIPYARD TOTAL		140.8		89.1		81.0		85.7

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILA, NORVA, CHASN, MARE, PUGET & PEARL

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K001 CRANES, PORTAL

ELEMENTS OF COST	FY 88 QTY.	FY 88 UNIT COST	FY 88 TOTAL COST	FY 89 QTY.	FY 89 UNIT COST	FY 89 TOTAL COST	FY 90 QTY.	FY 90 UNIT COST	FY 90 TOTAL COST	FY 91 QTY.	FY 91 UNIT COST	FY 91 TOTAL COST
END ITEMS												
A. 25 TON				1	3,800	3,800	1	3,800	3,800	1	3,800	3,800
B. 60 TON							4	3,450	13,800			
C. 150 TON				1	6,500	6,500						
D. 150 TON				1	2,500	2,500	1	3,500	3,500			
E. 25 TON	1	3,400	3,400	1	3,400	3,400	1	3,400	3,400	1	3,500	3,500
F. 50 TON							1	3,500	3,500			
K001 TOTALS	1		3,400	4		16,200	8		28,000	2		7,300

NARRATIVE JUSTIFICATION:

A. The purpose of this project is to obtain portal cranes with sufficient lifting capacity and reach to adequately support the waterfront workload of repair, conversion, and overhaul of surface ships. The project will provide an increase in the Shipyard's crane inventory to meet ship overhaul schedules and eliminate delays which occur due to current inadequate crane inventory.

B. This procurement replaces existing 40-year-old portal cranes with modern cranes. It has been determined that the costs associated with repairing existing cranes would exceed that of the procurement of new cranes. Portal cranes are

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PHILA, NORVA, CHASN, MARE, PUGET & PEARL	C. ACP-1 LINE NO. & ITEM DESCRIPTION K001 CRANE, PORTAL (CONTINUED FROM PAGE 1)

mission essential to overhaul/repair work at shipyard. Therefore, no internal rate of return is available.

C. This project will provide the Transportation Shop with a portal crane with sufficient lifting capacity and reach to support the water-front workload for repair and overhaul of SSN 688 class nuclear submarines. Since this portal crane can be easily adapted to operate at a 90 ton or 150-ton capacity by removing or adding counter weights, it becomes a multi-purpose unit available for either nuclear or non-nuclear projects, thus saving the cost of an additional medium size unit.

D. PHASE I FY 89. Purchase of one 150-ton portal crane has been mandated in order to provide the shipyard with the ability to lift a complete reactor from a submarine undergoing overhaul. Project will be funded in two stages in two successive fiscal years; this year and FY 90. Mare Island does not have a portal crane with this lifting capacity.
PHASE II FY 90. 150 ton portal crane has been mandated in order to provide the Shipyard with the ability to lift a complete reactor from a submarine undergoing overhaul. This is a follow-on project begun in FY 89.

E. The purpose of these projects is to provide the transportation shop with portal cranes with sufficient lifting capacity and reach to adequately support the waterfront workload of repair, conversion, and overhaul of submarines and surface ships. This is a continuing program to replace six (6) obsolete portal cranes over the next six (6) fiscal years, starting in FY 88. The need for the requested cranes is based on an economic analysis of this shipyard's ability to support projected workload requirements with the current inventory of cranes which have significant limitations and maintenance problems. Workload assignments of multiple submarines and surface ships have generated an increase demand for 25-ton cranes. The cranes to be replaced by these projects do not meet current safety standards and cannot be certified to support special purpose service operations.

F. This crane will support a heavy workload of multiple submarine and surface craft overhaul weight handling requirements. It will replace an existing crane that is more than 53 years old and constantly down for repairs. This project is part of of the Shipyard's long range modernization plan to replace the 17 existing portal cranes which are all more than 40 years old. This project has a calculated payback of 5 years and an internal rate of return of 30%.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)													A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PHILADELPHIA NAVAL SHIPYARD													C. ACP-1 LINE NO. & ITEM DESCRIPTION K002 CRANE, 150 TON OET
	FY 88			FY 89			FY 90			FY 91			
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	
END ITEM				1	1,200	1,200							

NARRATIVE JUSTIFICATION:

This crane will be utilized in Building 18, to lift precision-machined items to and from machining equipment in the 31 Shop such as lathes, boring mills and shapers.

The project will provide a modern, efficient, latest state-of-the-art design overhead electric 150 ton crane, which is required for Shipyard modernization of machine shop facilities. The 31 Shop is a critical machining operation required in the repair and overhaul of the fleet; ship turnaround time must be decreased in order to provide more on line time for the fleet.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: MARE ISLAND	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K006 WHEELER MACHINE (P017-90)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	325	325

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide for replacement of one Tank Cleaning Vacuum System (Wheeler) that is very old and worn beyond economical repair. The Machine being replaced was manufactured in 1941 and is now in such poor shape that it cannot perform even small cleaning jobs. This type of machine is required for the removal of oil and sludge from: bilges, lube oil tanks, fuel oil tanks, and sanitary tanks during overhaul operations. There is no alternate method of performing such operations. This is a mandatory replace.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: MARE ISLAND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K016 H. P. AIR COMPRESSOR (PO32-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	195	195						

NARRATIVE JUSTIFICATION:

High Pressure Air Compressor will be used to provide oil-free air for testing and servicing submarine high pressure air systems on site. The unit will be operated in a seashore environment in the vicinity of sandblasting operations. This unit will replace a 1964 3,000 psig unit with a new 5,000 psig unit. Use of the old unit is a serious safety hazard and cannot meet NAVSEA's requirement to provide shipboard air which is free of oil and contains no moisture.

Present equipment is broken and the manufacturer no longer produces the compressor or replacement parts. This is a mandatory replacement.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K017 CNC MACHINING CENTER (P021-90)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COS	TOTAL COST
END ITEM				1	248	248						

NARRATIVE JUSTIFICATION:

To replace a 24 year old N/C Boring Drilling Milling Machine NID#91316-000318 (1964) with a 40" x 60" CNC Machining Center. This new machine is recommended under the Shipyard Modernization Program and is consistent with the Industrial Planning Systems report IPS-3 equipment category B-273. Existing machine is operable only in a manual mode so N/C capabilities are lost and would require overhaul or retrofit to make it adequate for machine shop purposes. This replacement would provide the Machine Shop with the latest in CNC technology and expand capability with a multiple use Machining Center (CNC).

Internal Rate of Return = 25.30%; Payback will be within 3.54 years; Annual Savings = $173.054.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: MARE ISLAND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCPIPTION K018 HORIZ. MACHINING CENTER (PO29-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	402	402						

NARRATIVE JUSTIFICATION:

The purpose of this project is to modernize Machine Shop capabilities by replacing one 29-year old conventional Vertical Spindle Milling Machine NID#9266700-1698 (1957) with one CNC Horizontal Machining Center. The new machine is configured to the latest technological advances and is recommended under the Shipyard Modernization Program and is consistent with the Industrial Planning System Report IPS-3, Equipment Category M-411.

Internal Rate of Return = 11.40%, Payback within 5.79 years, Annual Savings = $24,027.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PUGET SOUND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K019 RADIOGRAPHY SYSTEM FOR FOUNDRY (P061-88)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
LINE ITEM				1	2000	2000						

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide the shipyard with a real time (and film) inspection system for non-destructive testing of components which require radiographic inspection for Quality Assurance Certification. This system will also replace an existing ionizing radiation (Cobalt Co^{60}) camera which is the shipyard's only means of inspecting components above four inches in thickness. The source for this camera has decayed to the point that it will soon be unusable and will have to be replaced if this project is not approved.

The ability of the RTI System to give fast feed back on radiographic inspections enhances all of the involved shops ability to progress work, and eliminates manhours spent machining, repairing, and allows all castings to be inspected prior to any work outside shop 81 to determine if the defects would cause a reject.

The purchase of the requested system is estimated to save approximately 24,000 manhours per year. The first year cost avoidance of replacing the Co^{60} source and the manhour savings for the foundry castings are the only basis used for this project. The project has an internal rate of return of 58% and a payback period of less than two years.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K020 CRANE, BRIDGE
(P006-88/P006-89/P005-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEMS												
10 TON				2	275	550	1	275	275			
25 TON				1	400	400						
TOTAL				3		950	1		275			

NARRATIVE JUSTIFICATION:

Replacement of existing 44 and-32 year old bridge cranes are required to support machine shop operations. The existing cranes can no longer be logistically supported. Replacement parts must be manufactured locally because the crane manufacturer is no longer in business. This practice is both expensive and time-consuming and adds to lost machine shop production time. This is a mandatory replacement.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: MARE ISLAND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K021 CHILL WATER UNIT - 100 TON (P019-90)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							2	200	400			

NARRATIVE JUSTIFICATION:

Additional Chill Water units are required for air conditioning systems used on ships undergoing overhaul and repair at Mare Island Naval Shipyard. The existing units are required to remain in service longer on each overhaul, therefore reducing the number of units available for other availabilities. This is a mandatory replacement.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K022 1000KW DC POWER SUPPLY (P012-87)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							2	150	300			

NARRATIVE JUSTIFICATION:

Temporary transformers are required to provide power to support lighting during overhaul when the ships transformers are temporarily removed from service. Mare Island does not have a sufficient number of these transformers at present and will not be able to support workload forecasted in the future. This will increase capability.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K023 CNC TURNING CENTER (P025-90)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	199	199			

NARRATIVE JUSTIFICATION:

The purpose of this project is to modernize Machine Shop capabilities by replacing one 33-year old conventional lathe duplicator type (NID#221-035727 - 1963) with one CNC 10" Turning Center. The new machine is configured to the latest state-of-the-art and is recommended under the Shipyard Modernization Program. This replacement project is consistent with the Industrial Planning Systems report IPS-3 equipment category L-113.

The requested machine will be compatible with the present CNC capabilities within the Machine Shop which will further expand Group Technology and Cell manufacturing efforts within the shop.

Internal Rate of Return = 23.58%, Payback - 3.73 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PUGET SOUND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K024 AUTOMATED MATERIAL STORAGE AND RETRIEVAL (P020-88)

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST
END ITEM					1	3700		

	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST
END ITEM			3700	

NARRATIVE JUSTIFICATION:

The shipyard supply department and material division maintains and operates five general purpose warehouses and five material control centers (MCC) as well as other storage areas located throughout the shipyard industrial complex. The material in these areas is manually received, stored, and retrieved for issue to shipyard personnel. This decentralized method of storage and issue increases errors, decreases worker efficiency, and requires a substantial work force. The supply department intends to consolidate DMI and UDM material currently stored in these various locations into building 368. As new material is received, it will be stored in the AS/RS and held until required per the ships overhaul schedule. At this time, the material will be retrieved from the system and sent to the appropriate MCC for subsequent staging, issue and distribution to production shops or directly to the pier, drydock or ship. This centralized approach will create more effective use of space and, thereby help alleviate current space deficiencies. This procurement consists of an integrated system: two aisles of mini load, and two aisles of unit load. The storage module consists of steel storage pallet rack with insertable steel drawers. Storage aisles within the module have horizontal bays and vertical tiers with each opening having a distinct address. Racks are designed and installed to conform with material handling institute (MHI) industry standards and seismic zone 3 requirements. The storage module includes an maintenance area at the end of the aisles with locked access doors. This feature provides for pilferage and security protection. The project has an internal rate of return of 39% and a payback period of 2.5 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PUGET SOUND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K025 HULL BLASTER CLOSED CYCLE (P004-86)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							2	650	1300			

NARRATIVE JUSTIFICATION:

This hull blaster provides the capability to abrasive blast a substantial portion on the exterior ships hull without releasing to the environment the dust and debris associated with the open blasting process. It reduces material costs by recycling the abrasive medium (steel shot or grit) numerous times until all usable material has been reduced to fines (dust or very finely divided particles) and discarded. The abrasive medium used for open blasting is primarily copper slag, which is propelled against the surface to be blasted one time, then falls to the drydock floor, where it is gathered by various means, most of them involving a substantial number of manhours, and discarded. It will reduce labor costs by eliminating more than half of the cleanup costs. Also, it cleans approximately five times the surface with the same number of men in the same amount of time as open blasting. This is a 5:1 productivity increase ratio for abrasive blasting of that portion of a ship's hull that is accessible to the proposed equipment (considered to be approximately 60%).

It is anticipated that the equipment will have a useful life of ten (10) years, and internal rate of return in excess of 15%, and a payback period of less than seven years.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: MARE ISLAND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K026 CNC TOOL GRINDER (P031-91)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	150	150

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide Shop 31 Toolmakers with a modern 5=axis CNC Tool and Cutter Grinder. The equipment presently being used is one old Universal Tool Grinder manufactured in 1918 and one companion Grinder built in 1978. Neither machine is capable of automatic operations and nether can support the required range of operations. Acquisition of the requested grinder will provide Shop 31 with the ability to automatically grind all configurations of end mills from 1/4 inch through 2-1/2 inches in diameter as well as odd-sized end mills.

Internal Rate of Return = 18.50%, Payback = 4.2 years.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K027 CNC PUNCH (P020-91)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	400	400

NARRATIVE JUSTIFICATION:

To modernize and streamline operations in the punch press section of the Sheetmetal Shop via the acquisition of a 32 station CNC turret punch to replace two old standard punches and supplement an existing CNC punch. Sheetmetal fabrication projects will generally follow the same path. Blanking is typically the first operation. With the existing automated shearing system, blanked material is literally funneled to the punch press department where it typically backs up because the existing punch cannot handle the workload because of constant tool changes. The new punch will virtually eliminate tool changes and thus reduce by a factor of 4 to 1.

Internal Rate of Return = 23.58%, Payback = 3.73 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K028 BENDING ROLL (P036-88)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	275	275

NARRATIVE JUSTIFICATION:

The Pipe Shop is presently using an antiquated Pipe Bending Roll built in 1936. This is the only pipe bending roll capable of bending large radius material that cannot be bent on conventional draw benders. The company that built this machine in 1936 has long been out of business and there are not other companies which can provide parts. Logistically, this old machine is near impossible to maintain because each time a part is required, it must be reverse-engineered and locally fabricated, a practice which is very expensive and very time consuming. This is a mandatory replacement.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PUGET SOUND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K029 PLASMA/OXYGEN CUTTING SYSTEM (P192-86)

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST
END ITEM					1	1750		1750

NARRATIVE JUSTIFICATION:

This project provides underwater cutting and bevel cutting capability for the welding shop (Shop 26). CNC control provides nesting and plate marking capability. The underwater torch eliminates noise and smoke hazards. The equipment will replace an outdated (obsolete) telerax plate cutting facility and will have a useful life in excess of fifteen years. The project documentation and technical requirements for the system are currently under development. It is expected that the equipment will have an internal rate of return greater than 15% and a payback period less than seven years. This will be a turnkey contract, including installation by the contractor.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PUGET SOUND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K030 MILLING CENTER, CNC, DOUBLE COLUMN (P007-91)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	1340	1340

NARRATIVE JUSTIFICATION:

This project will provide Shop 31 with a heavy duty, large working machining center, which they presently do not have. This machining center will enable such applications as reworking and in certain cases manufacturing watertight and armored doors, nosegear launch assemblies, launcher and director parts, elevator tracks, hoisting transmission cases, high rail crane components, valve manifolds, functional foundations, and large machine tool components to be accomplished in a much higher degree of accuracy and with a productivity improvement ratio of more than 415% versus existing inhouse conventional machine tools. We envision a useful life in excess of 20 years when complied with its CNC, updated with the state-of-the-art, as required. An internal rate of return higher than 15% is reasonable with payback period of less than 6.25 years.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: PUGET SOUND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K037 MCON P620 COLLATERAL EQUIPMENT (P017-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	1550	1550			

NARRATIVE JUSTIFICATION:

Military construction project P620 is the first phase of major improvements to support the overhead, conversion, refueling and repair of USS OHIO (SSBN-726) Class Trident submarines and USS NIMITZ (CVN-68) Class Aircraft cariers at Puget Sound Naval Shipyard. MCON P620 is included in Navy's FY 90 MCON budget and design is underway by Air Architect-Engineering firm. This plant equipment project provides the collateral equipment necessary to complete occupancy of MCON P620.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K069 PITCHOMETER

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM	1	214	214	1	175	175						

NARRATIVE JUSTIFICATION:

This project is necessary to insure that the NAVSEA propeller manufacturing requirements are met.

Present Method/Problem - Propeller manufacturing requires use of a pitchometer for layout of the propeller. Layout of the propeller insures proper spacing and location of the blades. Similarly, set-up of the patterns used to create a propeller mold require the use of a pitchometer in the foundry.

Proposed Method/Solution - Procurement of an additional pitchometer with digital read-outs for use with the propeller finishers in building 1029 will allow the three-year old pitchometer to be used in the foundry. The three-year old pitchometer will relieve the 26-year old pitchometer.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: MARE ISLAND NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K070 REACTOR PLANT COOLDOWN SYS. (P198-88)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST:	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM	1	345	345	1	345	345						

NARRATIVE JUSTIFICATION:

Reactor Plant Cooldown system is required to replace the present reactor plant fresh water system to support decay heat removal during submarine overhauls. This requirement is to support the SSN-688 class submarine and the old systems which do not have the capacities required for the SSN-688 class submarine. This is mandatory replacement which increases capability.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PUGET SOUND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K071 PUMP VALVE TEST FACILITY UPGRADE
(P043-87) (P045-88)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEMS												
P0043-87	1	1500	1500									
P0045-88				1	1300	1300						

NARRATIVE JUSTIFICATION:

The shipyard was directed to upgrade and improve its capability for post overhaul testing of water, fuel oil and lube oil pumps which have been overhauled by the shipyard prior to reinstallation aboard a ship. This action is necessary to comply with the requirements of OPNAVINST 4700.7E. A 1500 PSI boiler system is being acquired as part of the FY 86 ACP: Projects P043-87 and P045-88 design, manufacture and install test stands to conduct pump performance testing. Completion of this project is required to support the CVN-70 (USS CARL VINSON) FY 90 complex overhaul.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PORTSMOUTH NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K072 BUOYANCY TANKS FOR SSN-688 CLASS (P042-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				4	100	400						

NARRATIVE JUSTIFICATION:

. Bouyancy tank set will give Portsmouth Naval Shipyard the new capability to dock SSN-688 class ships in drydock #1 by lifting them to the required 24" sill clearance.

This is a local manufacturing project, consisting of a set of four 16' diameter x 30' long cylindrical tanks, 3/8" thick, with associated chain, cradles and "steamboat ratchet turnbuckles".

Construction must be completed to support SSN-709 DMP currently scheduled to start 3 FEB 1992.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K073 TURNING CTR 54" CC

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				2	343.5	687						

NARRATIVE JUSTIFICATION:

The purpose of this project is to replace five (5) conventional engine lathes with two turning centers.

The lathes proposed for replacement are particularly difficult to machine with. The operator frequently must inspect the part for dimensional accuracies. The difficulty of maintaining part accuracy hinders productivity by increasing both the actual amount of time to machine parts and the rejection rate.

Proposed Method/Solution - Procurement of two CNC turning centers will increase productivity due to more precise machining repeatable part accuracies, reduced set-up time, integration of cutting operations into one machining cycle, and a reduced dependency of operator skill.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K074 RING ROLLING MACHINE

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	829	829						

NARRATIVE JUSTIFICATION:

The purpose of this project is to procure ring rolling equipment that will enable the Forge Shop to produce ring forgings up to 72 inches in diameter.

Present - A manual forging press produces the upset, and the piercing operation is performed by a combination of tool setups and manipulator operations.

Proposed - Purchase a hydraulic ring roller mill for forging rings up to 72 inches in diameter. The mill can be operated by one man and produce rings with an accurate control of size and thickness without reheating.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K075 6" BORING BARS

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	151	151						

NARRATIVE JUSTIFICATION:

The purpose of this project is to replace Shop 38's 43-year old 6"x12' boring machine with a new state-of-the-art boring machine which will increase boring capacity for SLEP carriers from 6" x 12' to 6" x 28'.

Shop 38 currently owns a number of (6") boring bars of which all are over (35) years old. They are solid construction and made of non-hardened steel. The drive units are old, underpowered and in poor operating condition.

Recommended equipment will enable Shop 38 to optically align the bar to the stern tube providing faster and more accurate alignments. The electric drive of the new equipment has twice the power of out current drives and is very compact. This will increase productivity. The new bar is more accurate than our 40-year old bars and produces a higher quality finish faster. The new bar can be used as a 14' bar or married it can be a 28' bar giving it greater flexibility.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: CHARLESTON NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K076 BORING MACHINE, PORTABLE

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	150	150						

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide an additional modern precision boring and facing machine in the Machine Shop for machining and facing strut bearings, rudder bearings, stuffing boxes, gun mounts, foundations, turbine casings and gear boxes.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K085 PLTFM SHAFT/PROP PLTFM

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	770	770			

NARRATIVE JUSTIFICATION:

To replace two 20-ton-capacity Shaft Handling Dollies with two 60-ton-capacity units. This equipment is used to handle large, heavy underwater components in drydock areas that are inaccessible to portal cranes. It virtually eliminates the use of conventional rigging in the handling of shafts, rudders, propellers and other underwater components.

Existing Dollies are old and obsolete, received from New York Shipyard in 1963. Actual service life is approx. 32. years. Due to age of equipment and the difficulty of replacing parts, equipment has become badly worn, unreliable and unsafe. Frequent repair is necessary to maintain this equipment.

The proposed solution to the problems associated with the existing Shaft Dollies, (high maintenance/repair costs, lengthy out-of-service periods waiting for repair parts, and use of time and labor-consuming conventional rigging methods) is acquisition and use of the equipment.

It should be noted that use of this type of equipment for handling large, heavy underwater components is mandatory if the shipyard is to meet the schedules for ship overhauls now imposed. Reversion to conventional rigging methods will lead to drydock periods and corresponding longer overhaul periods.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: CHARLESTON NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K086 Diesel Engine Flushing Rig

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							2	80	160			

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide the Pipe Shop with a Portable Diesel Engine Flushing System that will pass through submarine and surface vessel hatchways.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: CHARLESTON NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K087 Drydock Support Platform

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST
END ITEM					2	120		

TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST
		240	

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide the Rigger Shop (72) with two additional drydock service platforms, which are required to allow close proximity placement of support equipment/machinery along-side vessels, while in drydock. These units are required to support concurrent submarine availabilities. This equipment is mandated by the Submarine Readiness Plan.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. *INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY*
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K088 DD2 S6G Equipment
(P011-90/P004-91)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	2,000	2,000	1	1,900	1,900

NARRATIVE JUSTIFICATION:

This project will provide adequate equipment to modify the present S5W refueling complex at Drydock No. 2 into an S6G refueling complex. This will involve the modification of existing refueling enclosures, passageways, utility systems, portal monitors, support systems, and other peripheral equipment. This will increase capability.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: CHASN	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K089 RAMP

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
							1	1,677	1,677	1	1,650	1,650

NARRATIVE JUSTIFICATION:

RAMP (Rapid Acquisition of Manufactured Parts) is a self-contained machine shop, run by software, which can produce parts on demand from prepositioned raw materials and digital parts data. Through FY 91 the Navy plans to procure a total of three RAMP cells which will be installed at NADEP Cherry Point, Naval Avionics Center Indianapolis, and Charleston Naval Shipyard. The cells at the NADEP and Shipyard will be configured to produce small Machanical Parts (SMP) while the cell at the Avionics Center will be manufacturing Printed Wiring Assemblies (PWA). Funds requested will provide for the establishment of one SMP cell and associated software (for NAC use FWA) RAMP cell at Charleston which will be fully operational in FY 92.

RAMP technology provides the flexibility to efficiently produce small Lot size (as small as one) over a wide range of parts (initially up to 3,000 per work cell). Through the use of Computer Integrated Manufacturing concepts, standardized digital drawings and specifications, Computer Aided Process Planning, Group Technology schemes and telecommunications, RAMP will provide improved quality and repeatability. In addition it is expected that RAMP will decrease procurement and administrative leadtimes (up to 90%), establish sources for hard to obtain spare parts at reduced unit costs, and improve readiness through increased availability of spare parts. Spare part inventory levels and carrying costs are also expected to be significantly reduced through use of Just-In-Time philosphy for Customer ordering of RAMP produced parts. The estimated Internal Rate of Return (IRR) for RAMP investment is estimated to be 122%. The estimated Return on Investment (ROI) is approximately 142% (5 years) and 115% (lifetime) with a payback of less than one year (.87 years).

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PUGET SOUND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K090 Water Pit Facility Transporters

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										2	1,150	2,300

NARRATIVE JUSTIFICATION:

NAVSHIPYD Puget has been tasked with refueling various ships with reactor cores that have fuel modules larger than those that are currently being handled and which will require disassembly and/or interim storage at the water PIT Facility (WPF). Refueling of these ships requires removal of irradiated fuel modules using shielded fuel transfer containers and may involve at least two fuel transfer operations occurring simultaneously. These shielded fuel transfer containers must be transferred from the ship and moved to a water PIT facility where the fuel cell is discharged under water to accomplish disassembly inspection, reassembly and interim handling of reactor components, including shielding and cooling of recoverable irradiated fuel. Once a fuel module is in the water pit, reactor safeguard requirements prohibit crane booming over the building and additional fuel modules can only be brought into the water pit building using ground transportation. The fuel modules are transported in shielded containers weighing as much as 97 short tons.

The water pit facility was constructed to support these fuel module storage, disassembly and cooling operations. Currently, there are no facilities in the shipyard capable of moving these shielded containers from the ship to the water pit facility and through available doorways to deliver the shielded containers inside the building.

The transporters purchased will provide service vital to refueling operations. When the transporters are not used for refueling operations, they will be used to haul other heavy loads throughout the shipyard and are expected to see frequent use.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 *PRESIDENT'S BIENNIAL* BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PORTSMOUTH NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K091 Steam Dump Control 688 Class

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST
END ITEM							2	100

TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST
			200

NARRATIVE JUSTIFICATION:

A complex electro-mechanical system providing for remote operation and valve position indication of steam dump valves during power range testing.

Increased capacity is required for future availabilities where SSN688 class vessels are scheduled for refueling.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K092 Replace Laminating Press

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	222	222

NARRATIVE JUSTIFICATION:

The requested equipment will be a direct replacement to an old, worn out unit that produces 7.8% rework. The present equipment is used for making placards installed on Naval Vessels and various shore facilities.

The present equipment has reached the end of its useful service life, is worn out, and prone to a complete breakdown at any time. Presently it is costing $5,985 per year to constantly maintain the existing unit. The existing laminating is operated on the 1st shift an average of 7.25 hrs per day by one operator (5 hrs equipment run and 2.25 hrs set-up) 252 production days per year.

It would be more beneficial to purchase equipment that would have manufacturer support for replacement parts in addition to keeping production cost at a minimum by eliminating the $50 hr contractor fee.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K093 Radial Drill 15" x 14"

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	151	151

NARRATIVE JUSTIFICATION:

This equipment will be used in Bldg 620 by Shop 38 for drilling misc pieces for overhaul of SLEP Carriers.

Shop 38 is in need of a good quality radial drill. The existing equipment is in poor condition and in need of replacement. This drill press will save in transportation costs from having to take the work piece to 31 Shop over a mile away.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K094 Vert Machinging Ctr

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	5,415	5,415

NARRATIVE JUSTIFICATION:

To provide 88 Shop with CNC vertical boring mill that will complement the Danly profilers and replace three machine tools currently used for machining propellers.

Presently, machining of propeller hub area is inefficient. This is due to excessive set-ups (five per prop), unreliability of obsolescent machine tools and insufficient capacity of a radial drill.

Purchase of new vertical boring mill will increase PNSY mobility. It will confine propeller machining to include only 88 Shop and building 1029. If additional output required, the profilers could be used solely for profiling blades. Although this would not be economical to accomplish the current projected workload, it would raise the total number of propellers that could be manufactured by PNSY in a given year.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: CHARLESTON NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K098 CAD/CAM Improvements

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM	6		223				11		865	5		273

NARRATIVE JUSTIFICATION:

Procurement of additional workstation tape drives, and printers to increase the capability of existing CAD/CAM systems presently in operation at the shipyard.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: PHILADELPHIA NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K099 CAD CAM Expan-3

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	855	855			

NARRATIVE JUSTIFICATION:

The requested Computer-Aided-Design and Drafting (CAD) System will be used to automate the design and drawing development processes for the purpose of: increasing productivity; decreasing the time required to complete the design process; improve product quality through increased accuracy, standardization and early elimination of material interferences; and interfacing with computer-aided-manufacture. NAVSEA established CAD benefits in its DSA/FMP Drafting Survey (SEA ltr 04K13A/NGM, 4720 Ser 1569 of 3 Jan 1979) and Non-DSA/FMP Computer-Aided-Graphics Study and Analysis (PNSY ltr Code 248 (TJP) Ser 5230 of 11 May 1979).

The majority of the work in the Design Division involves redesign of existing ships. This requires: extraction of engineering data from existing drawings and shipcheck documents; analysis of required changes according to NAVSEA specifications; Design development; drawings and documentation preparation. This method is largely labor intensive involving an experienced staff and farmout contracts to handle excess workload. Increased productivity is required to complete assignments within allowed timeframes while minimizing need for contractor support. The manual process makes it difficult to eliminate material interferences during the production cycle. An automated procedure for large scale interference detection is required. Improvement here would have a significant impact on time and cost savings. Newly installed CAD systems provide the latest tools and technology for the engineering and design field. These systems have revolutionized the field, obsoleting the manual process. Individual productivity is raised by an average of 43.7%, as identified in NAVSEA surveys.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K100 CAD/CAM Expan-4

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	550	550			

NARRATIVE JUSTIFICATION:

The requested Computer-Aided-Design and Drafting (CAD) System will be used to automate the design and drawing development processes for the purpose of: increasing productivity; decreasing the time required to complete the design process; improve product quality through increased accuracy, standardization and early elimination of material interferences; and interfacing with computer-aided-manufacture. NAVSEA established CAD benefits in its DSA/FMP Drafting Survey (SEA ltr 04k13A/HGM,4720 Ser 1569 of 3 Jan 1979) and Non-DSA/FMP Computer-Aided-Graphics Study and Analysis (PNSY ltr Code 248 (TJP) Ser 5230 of 11 May 1979). The majority of the work in the Design Division involves redesign of existing ships. This requires: extraction of engineering data from existing drawings and shipcheck documents; analysis of required changes according to NAVSEA specifications; Design development; drawings and documentation preparation. This method is largely labor intensive involving an experienced staff and farmout contracts to handle excess workload. Increased productivity is required to complete assignments within allowed timeframes while minimizing need for contractor support. The manual process makes it difficult to eliminate material interferences during the production cycle. An automated procedure for large scale interference detection is required. Improvement here would have a significant impact on time and cost savings. Newly installed CAD systems provide the latest tools and technology for the engineering and design field. These systems have revolutionized the field, obsoleting the manual process. Individual productivity is raised by an average of 43.7% as identified in NAVSEA survey.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: NORFOLK/PUGET SOUND

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K101 CAD/CAM Systems

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							VAR:		523	VAR:		2,281.6

NARRATIVE JUSTIFICATION:

The shipyards started using CAD/CAM systems in FY 84. Existing systems represent technology of the early 1980's. This item will provide system augmentation through addition of memory boards, additional hard disk storage, additional plotting equipment and conversion of monochrome work stations to color work stations to improve operator productivity. These systems are considered mission essential.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY

NAVY INDUSTRIAL FUND

ACTIVITY GROUP: NAVAL SHIPYARDS

ACTIVITY: PHILADELPHIA/NORFOLK/PORTSMOUTH NAVAL SHIPYARDS

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K111 Auto Tool Control System

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM	2	695	1,385	1	916	916						

NARRATIVE JUSTIFICATION:

This system will replace the existing WANG-based tool control system with a NAVSEA standard state-of-the-art system. Naval shipyards participated in the requirements definition/specifications, and are contractually committed to buy this new system. This project is considered mandatory.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)												A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET					
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND / ACTIVITY GROUP: NAVAL SHIPYARDS / ACTIVITY: MARE ISLAND NAVAL SHIPYARD												C. ACP-1 LINE NO. & ITEM DESCRIPTION: K112 HW Front End Processor					
	FY 88			FY 89			FY 90			FY 91							
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST					
END ITEM	1	110	110	1	110	110											

NARRATIVE JUSTIFICATION:

The shipyard's Honeywell, system "A", mainframe computers provide the main support for the shipyard's Management Informations Systems (MIS) databases and also for other local applications developed by Mare Island. As more and more on-line systems are developed and implemented, in keeping with the shipyard's intended goal of achieving an on-line processing environment, a corresponding increase occurs in the load factor placed on the system's finite resources, such as communications line load, working memory, disk storage space, etc. As these factors approach their maximum limits, system performance is adversely affected and further growth of the network is not possible without expansion of these resources. The Material Management (MM) system is one of the major systems currently supported on system "A", and is critical to the operation of the shipyard and its ability to carry out its assigned mission. The existing environment does not provide the MM and other major applications with an alternative path of processing should the existing main facilities become completely inoperative due to a major catastrophe such as an earthquake, flooding, etc. Although critical processing would be handled at a remote "hot" site, the shipyard would not have a viable means for handling transaction processing at the remote site without extensive and costly wiring of the necessary lines which would take valuable time to accomplish. The newer technology and enhanced capabilities of the DATANET 8 will provide adequate support for the existing date communications traffic and also the current projected load requirements for the near future. This project is considered mandatory.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. *INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY*
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. *ACP-1 LINE NO. & ITEM DESCRIPTION*
K113 Disc for HW System "A" (P043-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM	1	200	200	1	200	200						

NARRATIVE JUSTIFICATION:

The Shipyard's five-year plan is to provide total on-line processing capability with a minimum of batch processing. This project will provide four additional Dual Fixed Disk Mass Storage Units to increase the processing capability of the Honeywell Computer System A. This project is considered mandatory.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K114 Logmars (Phases I & II)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM	1	168	168				1	213	213			

NARRATIVE JUSTIFICATION:

The purpose of this project is to improve productivity, timeliness and accuracy of the data collection process by simplifying the data collection procedures.

All material received at the shipyard must be handled through the receipt processing, storage, and issue functions. The receipt information is manually entered through a Teletype Dataspeed Model 4540 Terminal keyboard that interfaces with the Material Management (MM) System.

NAVSEA 07M has the lead on a project to implement LOGMARS Barcoding Technology within the Naval Shipyards. Their primary objective is to interface the technology of barcoding with the existing MM and Material Stores (MS) applications. The expected benefits include the reduction/elimination of manual data entry, and faster, more accurate entry of data to the MM and MS applications.

Industry standards and past experience have determined that through any type of automation, overall productivity will increase 20%.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: LONG BEACH NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K077 TEMPERING FURNACE (P033-86)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEMS												
EQUIPMENT				1	350	350						

NARRATIVE JUSTIFICATION:

The purpose of this project is to provide a new stress relief/tempering furnace for shop 41. The present shop workload, changes in production requirements, and new developments in heat treating technology justifies a requirement for this furnace. It will provide the precision and control necessary for shop 41's operations with the latest safety features.

Existing equipment is too small to handle approximately 30% of the workload (which is presently contracted out at a cost of $80,000/year). Maintenance on existing equipment is high as are utility costs.

Proposed equipment will improve the quality of the parts worked and eliminate the need to contract out.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K078 REMOTE WORK STATION (P060-86)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	440	440						

NARRATIVE JUSTIFICATION:

An off-site complex is required to provide nuclear support for all minor and emergency reactor plant repairs and Selected Restricted Availabilities. This project is comprised of three trailers which will be specifically outfitted to support radioactive nuclear work at remote sites. These units must be transportable and cannot be left at any of the remote locations due to the possibility of radioactive contaiminated material in them. Alameda Naval Air Station, Ex-Hunters Point Naval Shipyard and San Diego Naval Base are the remote sites where the shipyard is assigned work which requires specialized equipment.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K079 NUC HVAC (P051-89)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	260	260						

NARRATIVE JUSTIFICATION:

The nuclear plant air conditioning system is required in order to reduce radiation exposure levels for personnel who must work in that area. This is a mandatory requirement.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K080 LOCAL CALIBRATION STDS

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	126	126						

NARRATIVE JUSTIFICATION:

The desired equipment will be used to perform/support the calibration of all shipyard and certain fleet electrical and electronic TMDE, including emergency calibration of ship equipment.

An electronic equipment allowance was developed jointly by the Metrology Engineering Center (MEC) and this shipyard. These procurements are considered mandatory.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: PORTSMOUTH NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K081 MCP MAIN FLANGE CUTTING MACHINE (P047-90)

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST
END ITEM					2	110.5	221	

NARRATIVE JUSTIFICATION:

The local manufacture of two (2) special canopy cutting machines for main coolant pump replacement is required in order to cut through the main flange canopy seal ring.

Scheduled workloads reflect a high influx of Depot Modernization Periods (DMP's). DMP's will run concurrently, requiring two (2) cutting machines per DMP. *Proposed two (2) MCP cutting machines will provide the increased capacity needed to* perform scheduled concurrent main coolant pump replacements, starting in 1992.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PORTSMOUTH NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION

K082 REACTOR ACCESS ENCLOSURE (P051-86)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	1,182.7	1,182.7			

NARRATIVE JUSTIFICATION:

Local manufacture of a 25' x 26' x 34' high portable steel reactor access enclosure, which will be used as an on-site work center for S6G refueling. Salient features include a power-operated roof hatch, a five-ton crane, a HVAC system, and an alarm system.

Based on the technical requirement for this new capability, existing S2C and S3G enclosures are too small for S6G work.

This enclosure is required to support refueling training prior to first SSN-688 refueling, currently scheduled for 1 Oct 92.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PORTSMOUTH NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K083 DOCKSIDE REFUELING ENCLOSURE (P002-88)

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST	QTY.	UNIT COST
END ITEM					1	907.8		

	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST
END ITEM			907.8	

NARRATIVE JUSTIFICATION:

Local manufacture of a 25' x 26' x 35' high portable steel dockside refueling enclosure, which will be used to support S6G refueling work. Salient features: power-operated roof hatch, a five-ton crane, a HVAC system and an alarm system.

Justification is based on the technical requirement for this new capability. Existing S2C and S3G enclosures are to small for the scheduled S6G refueling work.

This enclosure is required to support refueling training prior to first SSN-688 refueling, currently scheduled for 1 Oct 92.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)												A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PHILADELPHIA NAVAL SHIPYARD							C. ACP-1 LINE NO. & ITEM DESCRIPTION K084 10 TON OET CRANE					
	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							1	215	215			

NARRATIVE JUSTIFICATION:

The procurement of this crane will provide a modern, efficient, latest state-of-the-art design overhead electric 10-ton crane, which is required for Shipyard modernization of weight handling facilities for a critical work area. The piping storage shop is an essential part of the production piping shop where critical and long lead special piping is stored to provide for the repair/overhaul programs for USS KITTY HAWK and other similar type fleet ships that will require expedious turnarounds.

The estimated annual savings to be realized through the procurement of the requested crane will be $75,782 which will amortize the crane in about 2.7 years time.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K115 Honeywell Augmentation

	FY 88		FY 89		FY 90		FY 91	
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM			6,416			12,260			1,121			2,888

NARRATIVE JUSTIFICATION:

System modifications will increase the storage capacity of the Shipyard Management Information system to support increased processing requirements. These requirements include material management applications, automated time and attendance implementation, inquiry system, data transfer applications and Cobol conversion implementation, which are all required to support ship overhaul work. These modifications will increase productivity and enable the Shipyards to be more efficient and competitive in ship overhaul work.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA/NORFOLK/LONG BEACH/MARE ISLAND

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K116 Local Area Network System

ELEMENTS OF COST	FY 88 QTY.	FY 88 UNIT COST	FY 88 TOTAL COST	FY 89 QTY.	FY 89 UNIT COST	FY 89 TOTAL COST	FY 90 QTY.	FY 90 UNIT COST	FY 90 TOTAL COST	FY 91 QTY.	FY 91 UNIT COST	FY 91 TOTAL COST
END ITEM	VAR	VAR	398	VAR	VAR	600	VAR	VAR	810	VAR	VAR	1420

NARRATIVE JUSTIFICATION:

These systems will provide more efficient ways to connect terminals, PCs and peripherals to computers and to connect computers to computers and more effective ways to transmit data files between these devices than the current practice. The LANs will also provide higher data communications speeds than currently available and will lower the cost to move terminals to new locations.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PUGET SOUND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K117 MISC ADPE

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
PADP-88	VAR	VAR	2,100									
PADP-89				VAR	VAR	2,074.2						
PADP-90							VAR	VAR	300			
PADP-91										VAR	VAR	2,000

NARRATIVE JUSTIFICATION:

The projects listed above provide funds for augmentation of existing ADPE hardware and for acquisition of new ADPE/ office information systems with a unit cost less than $1.0 million. These funding levels are consistant with historical expenditures in this category.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K118 Mini Computer (P048-86)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	300	300						

NARRATIVE JUSTIFICATION:

This project is intended to provide a full range of ADP services to the Quality Assurance and Combat Systems Offices. It is intended to automate various functions such as follow-up of action items, nuclear deficiency reports analysis, maintenance of Shipyard Nuclear Power Manual, personnel administration, and historical tracking of trends in charts and graphs. Annual savings = $1.117,300 Payback = 0.27 years

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: MARE ISLAND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K119 Phase II, Time & Attendance (P050-87)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM				1	466.2	466.2						

NARRATIVE JUSTIFICATION:

The Automated Time and Attendance Muster System is an interactive data collection system used to record Shipyard employees time, attendance, and labor costing information. The badge reader subsystem will collect clock-in and clock-out times for this system. This system will replace a manual system involving daily generation and distribution of time cards which are punched in/out by each employee, certified by supervisors, collected, key punched, and ready by EAM equipment to enter the Shipyard's MIS.

Internal Rate of Return = 36.01% Payback = 2.65 years

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PHILADELPHIA/NORFOLK/MARE ISLAND SHIPYARDS

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K120 Eng Data Mgmt Info & Control System

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEMS							1	3,456	3,456	2	2,850	5,700

NARRATIVE JUSTIFICATION:

The Engineering Data Management Information and Control System (EDMICS) will provide a state-of-the-art computer system to Navy and Defense Logistics Agency (DLA) engineering data repositories. The existing inventory of aperture cards and hard copy will be scanned, digitized, and permanently stored on optical disk. The digitized images can be remotely viewed on graphics display terminals, printed/plotted on hard copy devices, or transmitted to CAD/CAM work stations for revision. The resultant more accurate and timely engineering data will improve the competitive acquisition of spare parts and increase overall productivity.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: PUGET SOUND NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K121 Nuclear Work Management System
(P044-90)

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							2	225	450			

NARRATIVE JUSTIFICATION:

Current methods for nuclear work management have not been fully automated. Previous attempts have failed due to the inflexibility of shipyard centralized facilities and the requirement to limit information for security purposes. Use of secure automated systems on the waterfront and flexible application development software will permit creation of an improved work management system. This system will improve work scheduling and allow management attention to be focused on specific actions to be completed prior to test and other overhaul events. These improvements are expected to provide direct labor cost savings through increased efficiency in the performance of nuclear work and reduction in the length of overhaul availabilities. While it is difficult to assign a dollar value to the expected savings, a conservative estimate indicates the nuclear work management system could reduce the length of the nuclear portion of a cruiser overhaul in excess of fourteen days. A reduction of this magnitude is significant from a cost savings standpoint and because it will return the ship to fleet earlier. Cost savings associated with a fourteen day reduction in the length of a cruiser overhaul are estimated to be $1,380,000.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: ALL NAVAL SHIPYARDS	C. ACP-1 LINE NO. & ITEM DESCRIPTION K122 Supervisor's Desk

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEMS				VAR:		1,400	VAR:		4,330	VAR:		2,436

NARRATIVE JUSTIFICATION:

Supervisor's desk is a concept of a paperless data entry/information retrieval system to support first-line supervisor's work and people management responsibilities which will allow the supervisor more time to monitor work at the worksite.

It will provide an integrated, user-friendly, state-of-the-art information system which will help the first-line supervisor plan and control his assigned work, thereby allowing him to spend more time at the work site. The system will interface with the standard shipyard MIS, specifically the production control (PC), and the financial payroll (FP) modules, ATAMS, and any other standard or local system which provides data required by desk. Information pertaining to job order, key operation, scheduled start and stop dates, and manhour allowances will be extracted from PC. Output for desk will provide FP with time and attendance labor costing data, etc.

This is a mandatory ADP system.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND *ACTIVITY GROUP: NAVAL SHIPYARDS* ACTIVITY: ALL NAVAL SHIPYARDS	C. ACP-1 LINE NO. & ITEM DESCRIPTION K123 Production MIS

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM							7,100			7,500		

NARRATIVE JUSTIFICATION:

The Navy has identified the need for additional and improved information to support new efficiencies being introduced into the shipyard management process. Specifically, management will require real-time access to increased amounts of information which must be consistent at all levels of management and between functional areas. This system when fully developed and implemented will replace the yard unique and limited independent planning, scheduling and waterfront tracking systems currently being used in the shipyards.

- Selected by GSA for "Go for 12" Program
- MENS being staffed in NAVSEA
- Requirements definition underway

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY: NAVY INDUSTRIAL FUND; ACTIVITY GROUP: NAVAL SHIPYARDS; ACTIVITY: PHILADELPHIA NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION: K124 Relational Data Base

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	677	677

NARRATIVE JUSTIFICATION:

The purpose of this project is to acquire a large relational data base management subsystem that can interface to shipyard computers, terminals and data communications network. The proposed system will provide for the integration of shipyard Management Information into one data base. The storage of this information in one data base will permit the development of inquiry capabilities not currently available - particularly, queries that will assist management in strategic decision making.

Present Method and Problems - Management information is stored in many discrete files maintained by programs in various MIS applications. Thus the data is recorded multiple times, updated by different programs, often using different algorithms (which creates the potential for inaccuracy). The data is difficult to access (often requiring specially tailored programs) and maintenance is expensive and complex. Also, data retrieval searches take too long to be responsive to management.

Installation of a relational data base management system would provide a 4GL (fourth generation language) user-friendly language to access to the management data. Estimated cost savings = $120,000/year Amortization = 5.13 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: NORFOLK NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K125 COSMOS II

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM												325

NARRATIVE JUSTIFICATION:

The COSMOS system (I and II) is a node of the shipyard's NORVANET system which is an interactive/batch word processing application. Historical data from previous ship repair availabilities are stored, retrieved and updated to generate the job orders and job material lists. Considered mission essential.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: NORFOLK NAVAL SHIPYARD

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K126 COSMOS I

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM												195

NARRATIVE JUSTIFICATION:

The COSMOS system (I and II) is a node of the shipyard's NORVANET system which is an interactive/batch word processing application. Historical data from previous ship repair availabilities is stored, retrieved and updated to generate job orders job materials lists. Considered mission essential.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: CHARLESTON NAVAL SHIPYARD	C. ACP-1 LINE NO. & ITEM DESCRIPTION K127 K006 FASS Upgrade

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
END ITEM										1	800	800

NARRATIVE JUSTIFICATION:

To upgrade the Shipyard's present system by installing the next generation computer presently being developed by NSSD.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K128 All Other ACP Under $1M

ELEMENTS OF COST	FY 88 QTY.	FY 88 UNIT COST	FY 88 TOTAL COST	FY 89 QTY.	FY 89 UNIT COST	FY 89 TOTAL COST	FY 90 QTY.	FY 90 UNIT COST	FY 90 TOTAL COST	FY 91 QTY.	FY 91 UNIT COST	FY 91 TOTAL COST
MISC ITEMS OF PLANT EQUIPMENT	VAR	VAR	60,490	VAR	VAR	36,206	VAR	VAR	10,838	VAR	VAR	29,963

NARRATIVE JUSTIFICATION:

These items are required for Naval Shipyards to accomplish assigned work, to meet mandatory regulations, to replace overage and unreliable equipment and to increase productivity to permit favorable competition with private shipyards.

EXHIBIT ACP-2

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET

(DOLLARS IN THOUSANDS)

A. BUDGET SUBMISSION

FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET

B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY
NAVY INDUSTRIAL FUND
ACTIVITY GROUP: NAVAL SHIPYARDS
ACTIVITY: ALL NAVAL SHIPYARDS

C. ACP-1 LINE NO. & ITEM DESCRIPTION
K129 Minor Construction Projects

ELEMENTS OF COST	FY 88 QTY.	FY 88 UNIT COST	FY 88 TOTAL COST	FY 89 QTY.	FY 89 UNIT COST	FY 89 TOTAL COST	FY 90 QTY.	FY 90 UNIT COST	FY 90 TOTAL COST	FY 91 QTY.	FY 91 UNIT COST	FY 91 TOTAL COST
UNSPECIFIED MINOR CONSTRUCTION	VAR	VAR	5,072	VAR	VAR	7,434	VAR	VAR	5,352	VAR	VAR	5,231

NARRATIVE JUSTIFICATION:

Funding is required for the erection, installation and assembly of new facilities and also for the extension, alteration, conversion, replacement and relocation of existing facilities.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (DOLLARS IN THOUSANDS)	A. BUDGET SUBMISSION: FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
B. INDUSTRIAL FUND/ACTIVITY GROUP/ACTIVITY NAVY INDUSTRIAL FUND ACTIVITY GROUP: NAVAL SHIPYARDS ACTIVITY: PHILADELPHIA/MARE ISLAND NAVAL SHIPYARDS	C. ACP-1 LINE NO. & ITEM DESCRIPTION K130 Other Mgmt Info Systems Under $1M

	FY 88			FY 89			FY 90			FY 91		
ELEMENTS OF COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST	QTY.	UNIT COST	TOTAL COST
VAR: VAR	322			VAR: VAR	750		VAR: VAR	1,150		VAR: VAR	650	

NARRATIVE JUSTIFICATION:

Various Management Information Systems costing under $1 Million each for unique local applications.

SPACE AND NAVAL WARFARE RESEARCH AND DEVELOPMENT CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
L001	Microwave Anechoic Chamber	1	1.8						
L002	Magnetics Laboratory Upgrade	1	1.1						
L003	Molecule Beam Expitaxy System	1	1.3						
L004	Sub Antenna Test Platform	1	0.2			1	1.3	1	0.2
L005	Signature Imaging Radar Facility					1	2.2		
L006	LCC Engineering Equipment	1	3.5	1	5.5	1	2.2	1	2.0
L007	Sub HI-SPD LCH Facility	1	0.1			1	1.1	1	1.3
L008	Three Axes Heavy Duty Positioner					1	1.0		
L009	High Accuracy 2500# SCORSBY							1	1.3
L010	Imaging Radiometer	1	0.5	1	1.1				
L011	Very Large Scale Tester			1	1.3				
L012	Photolithographic System					1	2.0		
L013	Selective Tungsten Epitaxial System							1	1.0
L014	Diffusion Furnaces							1	1.3

SPACE AND NAVAL WARFARE RESEARCH AND DEVELOPMENT CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
L015	Radar Signal Simulator					1	1.5		
L016	Wind Tunnel T-9 Driver Vessels					1	1.5	1	1.5
L017	Multisensor Integration Equipment			1	0.6	1	1.6	1	2.5
L018	Satellite Communication System					1	1.1		
L019	Compact RCS/Antenna Test Facility							1	2.0
L020	Large Anechoic Chamber							1	2.1
L021	Computer Image Generator System					1	1.0		
L022	P-369 MILCON Collateral Equipment					1	2.2	1	2.6
	Total EQ Over $1M		8.5		8.5		18.6		17.7
L023	CAEDOS Next Generation System							2	0.4
L024	32 BIT CADDS Work Stations							2	0.2
L025	Computer Aided Electronics Manufacturing							1	0.2
	Total CAD/CAM		0.0		0.0		0.0		0.8
L026	DT Data Communications Network	1	1.3	1	0.5	1	0.1	1	0.1

SPACE AND NAVAL WARFARE RESEARCH AND DEVELOPMENT CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
L027	Scientific Computer Facility					2	1.4		
L028	Communication System Upgrade	1	1.8	1	0.7	1	1.5	1	0.8
L029	CL VI Supercomputer			1	7.8	1	2.6		
L030	Communications Systems Network	1	2.4						
L031	Fylable Raster Symbol Generator			1	0.6				
L032	High Speed Simulator Computer			1	0.6				
L033	System Engineering Integration Facility			1	1.6	1	0.4	1	0.6
L034	Advanced Technology Computer Facility			1	0.6				
L035	CME Torpedo Hydrodynamic Computer					1	0.6		
L036	Torpedo Defense Engagement Model							1	0.7
L037	CME Signal Analysis System							1	0.6
L038	Computer System			1	0.8				
L039	Computer Upgrade	1	0.3	1	0.7				
L040	Computer System			1	0.6				

SPACE AND NAVAL WARFARE RESEARCH AND DEVELOPMENT CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
L041	Super Computer System and Upgrade					1	5.0	1	1.5
L042	Mini-Supercomputer 2					1	0.8		
L043	Office Automation					1	1.0		
L044	Adv. Sub Tech Oper Automation			2	0.2	3	0.5	3	0.2
L045	Super Computer Additions					1	0.1	1	2.0
L046	S&E Mass Storage Expansion			1	0.5	1	0.5		
L047	S&E Expand Extended Memory			1	0.5				
L048	Minicomputer Replacement			5	2.0				
L049	S&E CDC 990	1	3.9	1	1.2				
L050	Mini-Supercomputer					1	0.6		
L051	Advanced CPU					1	0.6		
L052	S&E ADD CPU System					1	0.8		
L053	Advanced Arithmetic Processor					1	0.9		
L054	NOA Minicomputers					2	1.0	2	1.0
L055	S&E Follow-on Major System							1	3.5

IF EXHIBIT ACP-1
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SPACE AND NAVAL WARFARE RESEARCH AND DEVELOPMENT CENTERS
DEPARTMENT OF THE NAVY
NAVY INDUSTRIAL FUND
INDUSTRIAL FUND ASSET CAPITALIZATION PROGRAM
FY 1990/FY 1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988 Quant	FY 1988 Total Cost	FY 1989 Quant	FY 1989 Total Cost	FY 1990 Quant	FY 1990 Total Cost	FY 1991 Quant	FY 1991 Total Cost
L056	SEE Data Base Mach							1	0.5
L057	ACQ System	1	0.8	1	0.3				
L058	Advanced Real Time Stimulator					1	0.6		
L059	Knowledge Based Systems	1	0.4	1	0.5	1	0.3		
L060	Video Teleconferencing					1	0.6	1	0.6
L061	Hardware TestBed					1	0.6	1	0.4
L062	Computer Complex Upgrade							2	1.0
L063	Disk Subsystem							2	1.2
L064	Database Support							1	1.0
	Total Major ADP EQ Systems		10.8		19.6		20.4		15.6
L065	Other EQ Under $1M		69.0		38.6		22.2		30.1
L066	Minor Construction		8.0		12.2		14.4		14.8
L067	Management Information Systems		16.7		0.0		0.0		0.0
	Total ACP		113.0		78.9		75.6		79.0

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. APP-1 Line No. & Item Description
L004 SUBMARINE ANTENNA TEST PLATFORM

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Test Platform	1	200	200				1	1,250	1,250	1	200	200

Narrative Justification:

This platform is ocean-moored and will provide a unique, over-the-sea test range, to be used for design, test, and evaluation for existing and new electromagnetic and electro optical submarine sensors. This facility will bridge the gap between laboratory test ranges and actual submarine testing. It shall also reduce the reliance on submarine services for technical/development testing.

Without this facility the Center will have to continue to rely on special submarine services to support development programs. Also, critical detection measurements are not possible without additional support (surface/air) which is very costly. However, with this platform accurate measurements (i.e., near surface multi path effects) can be made thereby optimizing antenna development.

This facility will result in a substantial cost avoidance to the Navy (more than $500K annually) by dramatically reducing the need for special (test) modifications to Fleet submarines and at-sea test supports.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/DAVID TAYLOR RESEARCH CENTER

C. ACP-1 Line No. & Item Description: L005 SIGNATURE IMAGING RADAR FACILITY

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Radar System							1	2,200	2,200			

Narrative Justification:

The Signature Imaging Radar Facility (SIRF) will be a high-power, high-resolution, computer-based imaging radar system and will be used in full-scale trials to characterize the radar signatures of U.S. Navy ships. The attack on the USS Stark underscores the fact that the threat to Navy ships from radar-guided anti-ship missiles is real. The measurement of actual ship radar cross-section (RCS) in an ocean environment is an essential part of our efforts to reduce the RCS of existing ships and to design future classes with minimal signatures. Currently no East Coast facility exists which can make the required full-scale measurements for the Atlantic Fleet. The SIRF will make these measurements and will complement on-going work in electromagnetic theory, ship RCS analytical modeling, and physical modeling. Without the SIRF, the Navy's ability to reduce the susceptabilty of its ships to detection and attack will be impaired.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group Activity
NIF/SPAWAR R&D CENTERS/DAVID TAYLOR RESEARCH CENTER

C. ACT-1 Line No. & Item Description
L006 LARGE CAVITATION CHANNEL (LCC) ENGINEERING EQUIPMENT

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Dynamometry Suite	1	3,500	3,500	1	2,000	2,000	1	100	100	1	150	150
Data Acquisition				1	1,400	1,400				1	100	100
Acoustic				1	1,410	1,410	1	560	560	1	200	200
Laser Doppler				1	400	400						
Light & Photo				1	290	290	1	400	400	1	50	50
Other							1	1,140	1,140	1	1,500	1,500
TOTALS			3,500			5,500			2,200			2,000

Narrative Justification:

The Large Cavitation Channel (LCC) provides the test capability to support the maritime strategy in surface warfare and submarine design. The LCC provides the controlled test chamber in which to conduct test of ship and submarine models much as a wind tunnel does for aeronautical model testing. The LCC is presently being fabricated at a Navy leased building located in Memphis, Tenessee. The facility is expected to become operational in July 1990. This ACP item encompasses the collateral engineering equipment which will be an integral part of the LCC and is needed to support measurements of hydrodynamic and hydroacoustic parameters for the prediction of full-scale performance from model tests. These ACP funds provide the equipment used to actually make the measurement and observation on the ship and submarine models being tested. Without this ACP equipment, the essential hydrodynamic and hydroacoustic measurements cannot be made and the benefits of the Navy's investment in the LCC itself would be unrealized and this will limit our capability to make improvements to our ships and submarines and solve new class design problems before actual ship construction and modification. In the past problems not detected in the design stage have cost the Navy millions of dollars in degraded operational capability, repairs, redesign and additional testing.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACT-1 Line No. & Item Description
L007 SUBMARINE HIGH-SPEED LAUNCH FACILITY

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Fabricate Tow Mechanism	1	136	136				1	1,095	1,095			
Installation												1,250

Narrative Justification:

The Launcher Building was built with a 450,000 gallon tank, ready for design and installation of a High-Speed Launch Facility (HSLF). The design has been completed and the Center is progressing with fabrication and installation. This facility will contain a submerged model of a submarine and will be capable of launching 1/7-scale torpedoes and missiles from vertical tube, bow tube, and canted tube locations. This tank was designed specifically to test launch from submerged submarine models.

Overall annual cost avoidance is expected to be approximately $180K resulting from savings in personnel time and travel and by avoidance of expenses for facilities and equipment rental.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL AIR DEVELOPMENT CENTER

C. ACP-1 Line No. & Item Description
L008 POSITIONER FULL SCALE

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Material Contract							1	950	950			
Installation									50			
TOTALS									1,000			

Narrative Justification:

The item to be procured is a heavy duty electromechanical three axis positioner which will replace the existing two axis positioner at the NAVAIRDEVCEN Full Scale Antenna Range Facility. The positioner will be used to orient the azimuth and elevation angle of test aircraft during antenna pattern and system performance tests. The positioner, mounted forty feet in the air on top of a specially designed structure, allows ground testing of full scale aircraft with more accuracy and cosiderably less cost than flight testing. The replacement is required because of wear on the existing positioner, a high failure rate generating excessive down time, the need for the third axis to provide realistic geometries for in flight simulated tests, and to ensure sufficient safety factor for the aircraft and installed equipment. The existing facility as currently operated costs approximately $250 per hour to collect essential installed antenna performance data as opposed to typical flight testing at $1500 per hour. The facility has been in operation approximately 10 years with the existing positioner and the associated down time has increased operating costs in the past year. The replacement positioner has a higher weight capacity and will experience considerably fewer failures. The replacement positioner will provide more accurate flight simulation (three vs two axis of rotation) and thus be able to be used in more applications further reducing test costs by replacing flight testing. This facility is used in support of a large number of programs such as F/A-18, EA-6B upgrades, various Electronic Warfare programs, and installed pod measurements.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL AIR DEVELOPMENT CENTER

C. ACP-1 Line No. & Item Description: L009 HIGH ACCURACY 2500 LB SCORSBY

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
2500 LB SCORSBY										1	1,260	1,260

Narrative Justification:

The advent of more sophisticated navigation equipment (such as strapdown systems) has placed more importance on the requirements for comparing actual ship's motions to those sensed by the navigation system (or stable element). The Navy's plan to utilize Ring Laser Gyro (RLG) strapdown navigation equipment for future submarine applications, vice the present gimballed systems, has generated a need to evaluate the strapdown equipment's ability to provide accurate real time attitude (roll, pitch and heading) information under ship dynamic operating conditions. Accurate real time attitude information is required to align various submarine weapon system such as TOMAHAWK and TRIDENT missile systems.

The actual ship's motion is the motion imparted by the test platform (in the laboratory, a Scorsby). Measurements of the dynamic roll, pitch and yaw motion of systems having 2500 pounds of capacity need an accuracy of 3-15 arc seconds to meet submarine requirements (presently used Scorsby is in the order of 2-10 arc minutes). The proposed Scorsby has extremely accurate sensing devices (inductosyns) installed to measure dynamic attitude motions. This Scorsby with its associated peripheral equipment will be capable of dynamically measuring, comparing, and logging attitude data to an acuracy of 3-15 arc seconds.

Without the High Accuracy 2500 pound Scorsby, the development of the required navigation system capabilities to meet future missile system requirements and submarine schedules will be severely impacted. Systems will be installed without R&D laboratory testing, which would result in the need to develop engineering change revisions to correct deficiencies normally resolved by laboratory testing. These engineering changes could result in multi million dollar costs to provide necessary software, hardware and documentation changes for each production and fleet installed system.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL WEAPONS CENTER

C. ACP-1 Line No. & Item Description: L010 INFRARED IMAGING RADIOMETER

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Radiomenter, including: Telescope and Scanner Control Console Digital and Video Recorders	1	500	500	1	1,100	1,100						

Narrative Justification:

Advanced technologies utilized in the development of new weapons systems (such as the Sidewinder AIM-9R) have generated a corresponding demand for the capability to effectively measure the performance of those systems by collecting and analyzing high resoultion images. Consequently, the Naval Weapons Center (NAVWPNCEN), in addressing its RDT&E role, has engaged in an intensive effort to upgrade its capabilities for high quality electro-optical (EO) measurement. An essential part of this overall effort is the procurement of an advanced imaging radiometer.

The NAVWPNCEN currently lacks the capability to perform calibrated image radiometry. The proposed acquisition will provide the capability needed to support new threat measurements, modeling, and provide data for weapon design, evaluation and development. Without this equipment, the impact on the Navy and U.S. defense will be significant. Advanced technology weapons programs will not be provided with high quality threat and target data required for timely and cost efficient development. Survivability and vulnerability studies of both conventional and low observable weapons systems will be done using "best guess" information from obsolete instrumentation. Strategic and tactical modeling simulations will be based on validations by data of lesser quality than the weapons they represent.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description: L011 VERY LARGE SCALE INTEGRATION TESTER

	FY 1988			FY 1989			FY [illegible]			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
VLSI Tester				1	1,300	1,300						

Narrative Justification:

The microelectronics technology base is continually changing, with breakthroughs in speed and complexity. Rapid advances in semiconductor manufacturing mandates the necessity for a high speed, high pin count test system. VLSI performance is only of value if one can harness it in a test program quickly and easily. The rapid changes in device technology demand an approach to test software for complex process testing and device debugging. The desired high speed tester will be capable of 40Mhz functional testing with DC and AC parametric test capability. It will have 256 full I/O channels with each channel having its own timing generator, parametric measurement unit, and digital-to-analog converters for voltage and current levels. This tester will replace a 15 year old system which cannot meet the performance conditions for device testing presently being tasked to the Center. This tester will enable the Center to test high speed, high pin count devices that are being fabricated for use in DOD systems. It will also enhance the capability to test/retest devices being stored in the Defense Electronics Supply Center stores. Without the direct interface of the tester to the on-site computer-aided design system, it would be almost impossible to generate the function statements necessary for testing and debugging Large Scale Integrated Devices.

Fleet support and development of advanced radiation hardened silicon integrated circuit for DOD weapon and communications systems, would be seriously delayed without an adequate test system. Failure to obtain a high speed, high pin count test system will jeopardize current and future commitments for DOD semiconductor requirements.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description: L012 PHOTOLITHOGRAPHIC SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Photolighographic System							1	2,000	2,000			

Narrative Justification:

Microlectronics laboratory at NOSC is currently developing advanced circuit designs which employ very thin film processes. Such devices operate at higher speeds and are less sensitive to radiation damage than conventional microchips. To utilize the advantages of these thin-film designs, the lateral dimensions of the circuitry must be reduced proportionately. This requires the capability to preclude optical images on the semiconductor surface with features less than one micron wide. The scanning projection aligner currently in use is limited to features no smaller than two microns.

Most of the developments currently underway in the microelectronics industry are based on use of reduction stepper aligners. These steppers can presently produce patterns with features of less than one micron size, approaching one-half micron in some cases. In addition to allowing many more devices in a given area of the chip, steppers provide several other advantages compared to a projection scanner. Steppers operate by reducing the image from an enlarged pattern on a glass reticle. The reticle contains fewer, larger patterns, than the mask for a scanner aligner. Thus it is easier to produce a defect-free reticle compared to a real-size 1X mask used by a scanner. As a result, the yield of usable die on the finished wafer can be much higher for steppers than for scanners. Also, steppers meet the radiation requirements for not inducing damage into a silicon-like E-Beam direct-write photolitho system.

Another advantage of steppers is their versatility. They can be programmed to put several different devices' variations on a single wafer, resulting in a great savings in both materials and process development time.

If NOSC is to maintain a capability within the Navy to produce the advanced radiation hardened microcircuits needed by sophisticated weapon systems, it is essential that the process equipment be at the state-of-the-art.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACPI Line No. & Item Description: L013 SELECTIVE TUNGSTEN EPITAXIAL SYSTEM

	FY 1988			FY 1989			FY [illegible]			FY [illegible]		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Selective Tungsten Epitaxial System										1	1,000	1,000

Narrative Justification:

The Microelectronics laboratory of NOSC has developed advanced silicon integrated circuit technology which has significant potential for extremely high speed, high packing density electronics. In particular, the ultrathin silicide to sapphire (STS) technology has the potential for up to 10 million logic gates per chip in the 1990's. Such complex integrated circuits demand corresponding complex interconnections, and conventional interconnection technologies will not suffice for STS. Therefore, novel processing techniques must be developed in order to take advantage of the demonstrated potential of STS.

The high density of interconnections will certainly place demands to increase from one or two levels of metalization to three or more. Such processes can only be produced reliably if they are inherently planar. One of the most promising developments in planarized metalization is selective deposition of tungsten. This technique is based on the unique property of tungsten that at specific temperatures and pressures, tungsten will deposit selectively on silicon and not on silicon dioxide. This permits selective filling of contact holes, creating a vertical metal interconnection with a surface planar to a silicon dioxide insulating layer. If this process could be perfected and shown to be applicable to modern integrated circuit manufacture, the three or more levels of interconnections can be fabricated.

In order to develop this process, and specifically to develop it for ultrathin STS, a selective tungsten deposition system must be purchased and installed at NOSC. Once installed, the process development can proceed and can then be transferred to the semiconductor industrial base of the country.

Installation of this equipment will significantly reduce development costs and lead times for advanced integrated circuits by permitting use of the STS technology and providing circuit designers with increased flexibility due to extra metal layers. Without this equipment, much more complex processes will have to be developed in order to interconnect the advanced ICs and Navy systems of the future will be limited to less powerful technologies.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L014 DIFFUSION FURNACES

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Diffusion Furnaces										1	1,300	1,300

Narrative Justification:

The Microelectronics laboratory at NOSC fabricates state-of-the-art devices in support of the Fleet. In order to keep up with current technologies and to deliver future advanced Navy integrated circuits, greater versatility in chemical dopants and higher quality films are required. Currently the laboratory is limited to boron and phosphorus dopants and also limited by type and quality of deposited films. In addition, the diffusion furnaces currently used in the laboratory are subject to particle contamination which lead to lower wafer yields. Advances in furnace design have significantly reduced this problem.

Installation of these diffusion furnaces will allow NOSC to fabricate complex integrated circuits presently beyond the capability of the laboratory. Purchase of this equipment will result in cost savings to the Government by 1) developing and producing advanced Navy devices not economically feasible for commercial laboratories to fabricate; 2) providing Navy scientist and engineers with a working knowledge of state-of-the-art processing in order to monitor and provide technical advice to Navy contractors; 3) allowing processing to occur in house which in turn insures the integrity of the devices; 4) increasing device yield.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACP-1 Line No. & Item Description
L015 RADAR SIGNAL SIMULATOR

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Radar Signal Simulator							1	1,500	1,500			
Installation									21			
TOTAL									1,521			

Narrative Justification:

NSWC is responsible for the development and planned product improvement of surface Navy Electronic Warfare (EW) systems. To meet this reponsibility, NSWC must use test devices to simulate the EW systems which are undergoing development and test, which is crucial to insure that the EW systems will perform as required at sea. New versions of EW systems have been and are being developed and will be delivered to NSWC for continuing support. NSWC will not be able to provide full support without the requested radar signal generator.

Currently, NSWC uses digital simulation for most test purposes. Digital simulators are substantially less expensive than comparable radio frequency generating systems. The digital simulators have been valuable. However, the full signal processing characteristics of an EW system are only seen when the entire system, including the antenna, receiver and digital processing, are combined by stimulating the system with radio frequency (RF) signals.

The proposed radar signal generator will fill a critical need. The present RF testing capability at NSWC is very limited. Only a few signals can be produced simultaneously. To provide realistic scenarios, the RF simulation environment must be crowded with many independent, complex signals. This dense, realistic test environment can be provided with the requested acquisition. As the Stark incident in the Persian Gulf showed, some system flaws or peculiarities become visible only when the full EW system is tested. Only RF can provide the full system testing required.

An additional benefit comes from the generic nature of an RF generating system. Since the simulator is producing RF signals, which are exactly what a real environment would provide, there is no need for special digital interfaces between the simulator and the EW systems which are being simulated. Using RF avoids costs in interface design, development and maintenance. Use of an RF simulator avoids acquisition of specially designed digital simulators which would

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL
B. Industrial Fund/Activity Group/Activity	C. ACPI Line No. & Item Description

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost

Narrative Justification:

L015 RADAR SIGNAL SIMULATOR (CONTINUED)

otherwise be needed for testing new or modified versions of EW systems. Digital simulators with scenario capability cost about $300K to $500K. Digital interfacing to a specific EW system or modifying a digital interface for a modified EW system costs from $50K to $150K. Recurring costs such as this can be avoided when a scenario-capable RF signal generator system is used.

The EW system test process also expands the way tests can be conducted. EW scenarios using digital stimulators are not realistic when attempting to test more than one EW system simultaneously. Precise geometries and signal timing are very difficult to provide in digital simulations on multiple EW systems. But, testing multiple systems, especially for data integration purposes, using RF radiation provides a perfect simulation of an actual EW environment.

The proposed acquisition will save approximately $30K per year in avoided cost increases which would result from continuing use of digital simulators. Primarily the savings come from avoiding increased contracting requirements for engineering support for test set up and equipment interfacing and not having to buy numerous digital simulators.

Money will be saved, increased use of contractors will be avoided, but the essential justification for the RF simulator is to insure that the fleet is given EW systems which function in real tactical environments.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACP-1 Line No. & Item Description
L016 WIND TUNNEL-T9 DRIVER VESSELS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Driver Vessels							1	1,500	1,500	1	1,500	1,500

Narrative Justification:

The NSWC Hypervelocity Tunnel 9 is a national asset to the DOD aero-testing community. Although Tunnel 9 is a Navy test facility, it has been used for many Army, Air Force, and NASA sponsored programs. Tunnel 9 has played significant roles in the development of the MK II Reentry Body, the Trident II MK 5 Reentry Body, the High Endo-atmospheric Defense Interceptor (HEDI) of the SDI program, NASA's space shuttle program, and most recently has contributed to the aerodynamics of high speed inlets of the NASP (National Aerospace Plan) program.

Tunnel 9's capabilities are testing at Mach 10 with a Reynolds Number up to 20 million, Mach 14 with a Reynolds Number up to 4 million. In addition to these capabilities, what really makes the tunnel unique is the large test cell (5 ft diameter X 20 ft long). This allows testing of full scale missiles and reentry bodies thus eliminating any scale down problems. The NSWC Hypervelocity Wind Tunnel No. 9 operates at high pressures and temperatures providing Mach 10 and Mach 14 operating conditions. Due to these high pressures and temperatures the high pressure end of the wind tunnel has three large pressure containment vessels and one large heater vessel which is used to heat the nitrogen gas used in wind tunnel runs. These Driver Vessels have a finite fatigue life. The remaining life left in the existing vessels is approximately one-half of their life expectancy. It is necessary to start replacement purchasing and manufacturing processes before the vessels' lives are completely used up. We need to replace worn out Nitrogen Driver Vessels in T9 based on safety considerations associated with predicted fatigue life. If Tunnel 9's operating capabilities have to be scaled down due to the fatigue life in it's high pressure vessels, existing and future Navy, Army, Air Force, and NASP aero-developmental testing programs would be severely impacted.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER	C. ACP-1 Line No. & Item Description L017 - Multisensor Integration Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost
Forward Looking Infra-Red (FLIR)				1	580	580						
High Power Signal Generator							1	920	920			
Automatic Video Tracker							1	540	540			
Instrumentation Radar										1	2,340	2,340
Installation						20			140			160
Total						600			1,600			2,500

Narrative Justification:

NSWC focuses RDT&E efforts on developing innovative technical solutions to gain synergism between sensors. NSWC's experience suggests that a multiple sensor approach offers promising technique for detecting and tracking these threats.

In order to conduct the technology demonstrations and critical experiments, which support the development of an integrated multisensor self defense system, NSWC is establishing a multisensor integration test site on its Potomac River Naval Gun Test Range. One of the primary reasons for choosing this location was the ability to simulate low cross-section high speed targets with gun projectiles. The multisensor integration support equipment requested will augment the existing range assets and provide the added capability to carry out RDT&E experiments with current manning levels. It is also anticipated that these new assets will augment the gun range by backing up the present range instrumentation and providing additional safety surveillance.

The multisensor integration test site is expected to provide support for the NATO AAW program, the CIWS improvement program, the Foreign Weapons Evaluation program, the Surface Launched Weaponry Exploratory Development Block and several smaller sensor projects.

Specific equipment items include the following:

The Forward Looking Infra-Red (FLIR) system is a fundamental IR measurement system which will be used to develop specifications for future IR sensors and to assist in the test and evaluation of these devices. IR sensors are a viable option for defending against low elevation/low observable threats as an adjunct to advanced radar systems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET (Dollars in Thousands)	A. BUDGET SUBMISSION FY 1990/1991 PRESIDENT'S BIENNIAL
B. Industrial Fund/Activity Group/Activity NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER	C. ACP-1 Line No. & Item Description L017 - Multisensor Integration Equipment

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total Cost	Quant	Unit Cost	Total	Quant	Unit Cost	Total Cost

Narrative Justification:

L017 MULTISENSOR INTEGRATIN EQUIPMENT (CONTINUED)

The High Power Signal Generator will provide the relatively low cost capability to evaluate radar waveform designs in a maritime environment. It will perform the function of radar brassboard using fully flexible laboratory grade signal generators and modulators followed by intermediate power amplifiers of the 1 kw class. This will permit low power concept development tests to be performed economically without hardware development costs. Full power follow-on experiments can then be performed with existing power amplifier and antenna assets.

The Automatic Video Tracker is a dual purpose device. It will provide precision angle track of targets as a source of "ground truth" in support of sensor development. It will also serve as a generic brassboard tracking subsystem for a wide variety of infra-red and EO sensors. This will permit focusing development efforts on the sensor without dilution of resources on the parallel development of auxiliary subsystems.

The Ballistic Instrumentation Radar (AN/MPQ-63 or equivalent), a proven state of the art device performing its function at YUMA Proving Ground, is appropriate for support of standard naval gun and functions testing. In addition, the radar's combined high range resolution and high doppler resolution will give a capability to monitor a wide variety of surface and air-launched devices such as decoys, bombs, mines and submunition rounds. Various debris screening and kill assessment techniques can also be evaluated in real time. If the Navy achieves only 10 percent of the Army's estimated savings, the acquisition cost would be recovered within two years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L018 SATELLITE COMMUNICATION SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Satellite System							1	1,100	1,100			

Narrative Justification:

The following capabilities will be supported: 1. Perform in parallel and as close to real time as possible with the ship, information and display processing using land based resources. This would allow rapid prototyping and demonstration of advanced concepts and their incorporation into the fleet in a shorter time frame than previously, thus at a cost savings. 2. Allow real time recording of data at a land based site while a ship is on patrol. This would speed up NUSC's reaction time to problems encountered by the fleet. 3. Support existing sonar systems during life cycle by: a) allowing for rapid delivery of software system upgrades to ships anywhere in the world, b) providing the capability to troubleshoot system problems from a land based facility, c) monitoring system performance and providing prompt feedback to the ship on possible problems, and d) allowing the lab to address operability issues in real time. 4. Provide simulated sonar training for single ship or battle group tactical operations while deployed.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACT-1 Line No. & Item Description
L019 COMPACT RCS/ANTENNA TEST FACILITY

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Test Chamber										1	2,000	2,000

Narrative Justification:

The Compact Radar Cross Section/Antenna Test Facility will provide an all weather measurement range for making far field radar cross section and antenna performance measurements required for the development and improvement of submarine mast and periscope mounted sensor systems. New submarine antenna designs are required to have inherent low radar cross section characteristics. This makes it necesary to have facilities which allow measurement of sensor performance and cross section during the design phase. This facility will support shorter developmemt times and/or reduced technical risks in future system developments.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L020 LARGE ANECHOIC CHAMBER

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Instrumentation										1	2,100	2,100

Narrative Justification:

The Large Anechoic Chamber test facility will permit the complete performance characterization of submarine-unique communication, navigation and electronic warfare antennas over a frequency range from 150 MHz to 45 GHz. Antennas, developed by NUSC and by Navy contractors, will be tested in their operational configuration to determine radiation patterns, gain, phase and impedance as well as parasitic effects due to site constraints of the submarine configuration. This facility will permit rapid testing of newly developed antennas and allow operational effectiveness of antennas modified for specific submarine missions.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL WEAPONS CENTER

C. ACPI Line No. & Item Description: L021 COMPUTER IMAGE GENERATOR SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Image Generator System							1	1,000	1,000			

Narrative Justification:

A major aspect of the Navy's defensive and offensive capability resides within its air weapons systems. Key to the mission of the Naval Weapons Center is the ability to develop and measure the effectiveness of new generations of imaging missile systems.

The planned acquisition will generate target and backgrond images in real-time for use in hardware-in-the-loop simulation and evaluation of imaging infrared guidance systems. To develop and test these new tactical missile guidance systems, property banded target and background images must be generated and presented dynamically and in real-time. The computer image generation capability resulting from this acquisition will enable the test engineer to properly control an increasingly complex test environment while gathering required data through accurately repeated test simulations.

Without full and complete simulations, the only alternative will be more extensive use of captive flight test and live missile firings. Both are costly and do not provide the test engineer with the control over the environment needed to isolate and evaluate specific technical problems. The expense of flight operations serves as the focal point of the economic analysis for this project. Cost avoidance associated with replacing flight tests with simulation conducted on this system will enable the navy to avoid $740 thousand per year during the 10-year expected useful life of the hardware.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL WEAPONS CENTER

C. ACT-1 Line No. & Item Description
L022 P-369 MILITARY CONSTRUCTION COLLATERAL EQUIPMENT

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment Associated with Instrumenting the MESA Encounter Simulation Arena and Compact Ranges							1	2,165	2,165	1	2,608	2,608

Narrative Justification:

These procurements will provide the collateral equipment required to complete the fully useable Missile Engagement Simulation Arena (MESA), Military Construction Project P-369. The design for the project is complete and the construction start is programmed for FY 1990.

MESA will support the development of the anti-air weapons critical to the defense of U.S. military forces and their ability to project force. Without MESA, the United States would be severly handicapped in its ability to develop missile fuzes needed to counter reduced observable (radar) airborne threats. Without MESA, the Naval Weapons Center, the Navy's primary Center for the development of anti-air weapons, would be limited in its capabilities to develop guidance subsystems needed to counter these same threats.

This equipment will measure the performance of advanced technologies while still in the design and prototype phases and assess the effectiveness of improvements in current systems to counter the advanced threats. It will also control background clutter for measurements against low radar cross-section threats and assess the effectiveness of foreign military systems against U.S. aircraft and missiles.

Cost reductions associated with the acquisition of the collateral equipment itself is not significant ($80 thousand per year over the 20-year expected useful life). However, appropriate outfilling of the MESA facility will provide the critical technical capability that does not exist elsewhere in the free world, a facility capable of satisfying the essential fuze testing requirements described above.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/DAVID TAYLOR RESEARCH CENTER

C. ACP-1 Line No. & Item Description
L023 CAEDOS - NEXT GENERATION SYSTEMS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
System										2	200	400

Narrative Justification:

DTRC operates a computer-based engineering and design facility that was begun 8 years ago under the Navy-wide CAEDOS (Computer Aided Engineering and Documentation System) program. This system has effectively modernized the total engineering design process by replacing traditional design tools (calculator and drafting board) with computer terminals and sophisticated design software.

While the original CAEDOS equipment has served us well, the "Next Generation" of Computer Aided Engineering/Computer Aided Design (CAE/CAD) systems are needed to improve processing speed and capacity to keep pace with the increasing volume and technical complexity of today's engineering problems. The new systems will also be better suited to support the increased need for secure processing.

The Navy and the Center made a large leap in engineering effectiveness and efficiency when CAEDOS was introduced. With these procurements, DTRC is ensuring that we maintain a modern capability in this area.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L024 32 BIT CADDS WORK STATIONS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
CADD Workstations										2	80	160

Narrative Justification:

The 32 bit Computer Aided Design and Drafting work station will be used to support Research & Development design and fabrication efforts at NUSC. It is a stand-alone work station. Present system in use has work stations tied into a Central Processing Unit. When the CPU goes down, all the work stations also go down. The maintenance cost of this new 32 bit CADD is one-fourth of the cost of present industry-standard systems. The new CADD station software is based on industry-standard work station technology and provides the choice of stand-alone or networked configurations. Also, the new CADD station provides access to all the computing resources, application software and data bases of the network. The reduction of annual cost in the maintenance area alone is estimated at more than $115K when all new systems have been put on line.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L025 COMPUTER-AIDED ELECTRONICS MANUFACTURING SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
CAD/CAM Equipment										1	200	200

Narrative Justification:

Provides capabilities to address emerging VHSIC/VLSI computer-aided manufacturing requirements, and to upgrade manufacturing capabilities of hybrid circuitry laboratory to address packaging/inspection areas such as thermal imaging, co-fired substrates, surface mount device placements, tape automated bonding assembly, and manufacturing artwork generation. The alternative to purchasing the equipmment would be rental; purchase will avoid a net annual cost of more than $100K.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/DAVID TAYLOR RESEARCH CENTER

C. ACP-1 Line No. & Item Description: L026 DT DATA COMMUNICATIONS NETWORK

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Basic Network	1	1,284	1,284									
Interface Equip				1	500	500						
Network Mgmt Equip							1	100	100			
Security Devices										1	100	100

Narrative Justification:

David Taylor Research Center has introduced a number of automated capabilities to enhance its mission activities. These capabilities include high speed processors, enhanced Computer Aided Engineering devices, test and measurement equipment, sensors, video equipment, and workstations to support both engineering and administrative activities. Many of these resources are utilized to support scientific and engineering analysis, data reduction processes, test and evaluations, and other engineering and scientific applications. Implementation of these capabilities requires high-speed interconnection in order to support the sharing of information and programs among various projects within the center. Thus, there is a requirement for data communications with sufficient capabilities to take advantage of the installed state-of-the-art technology. Currently, an extensive telephone system is being utilized to support the center's data communications requirements. While these existing capabilities provide basic communications services, they lack the performance and functionality required to adequately support the sophisticated installed equipment base at the center, plus the cost of the current system is excessive, two (2) million dollars in annual cost, with little flexibility to enhance the basic communications speed or service to meet current requirements. With the installation of a state-of-the art high speed communications system, the communication speed would increase from 1200 baud to 9600 baud and eliminate the annual two million dollars in communications cost. The network would provide the required functionality, performance, and services and permit future expansion while reducing costs and allowing the attainment of equipment standardization. Payback of costs would be attained within three (3) years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACT-1 Line No. & Item Description: LD27 SCIENTIFIC COMPUTER FACILITY

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Scientific computer facility augmentation							2	700	1,400			

Narrative Justification:

The equipment is to provide an incremental addition to the current general purpose computational capacity of the central computer complex at NUSC. The current general purpose scientific and engineering computational facility is approaching saturation of central processor utilization and does reach 100 percent during peak usage periods. Workload increases are expected in engineering analysis (especially structural), interactive graphics, data bases, and project management. Without additional computational capacity, the quality and availability of computer services to the many project users will substantially degrade and for some purposes become unacceptable. The only alternative to increase capacity would be the rental of additional similar equipment, which is projected to cost $200,000 annually based on GSA schedules. The planned augmentation to be purchased is projected to cost approximately $140,000 per year in maintenance and depreciation (8 year nominal life). An annual savings of $80,000 in operating costs is expected overall.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL WEAPONS CENTER

C. ACP-1 Line No. & Item Description
L028 COMMUNICATIONS SYSTEM UPGRADE

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
System	1	1,789	1,789	1	740	740	1	1,460	1,460	1	750	750

Narrative Justification:

This program includes the design, acquisition, and installation of a basewide voice, video, and data communications system for the Naval Weapons Center (NAVWPNCEN). It is required because the current voice communications system is based on a World War II vintage mechanical switch. It does not provide high speed data transmission. The current system is marginally reliable and is not cost effective to repair. The present telephone lines to various NAVWPNCEN population areas are not adequate to handle data and video transmission essential for cost efficient sharing of ADP files, applications, and hardware.

The Communication System Upgrade will alleviate these problems by providing a state-of-the-art digital switch for enhanced voice communications and high speed switching for data and also a fiber optic backbone trunk to connect major population areas with analog and digital video connectivity.

The economic analysis conducted for this project indicates that $0.9 million in required investment costs for local area networks will be avoided each year. In addition, the 10-year expected useful life will result in annual cost avoidance of $2.3 million in operating costs starting in FY 1994.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL WEAPONS CENTER

C. ACP-1 Line No. & Item Description: L029 CLASS VI SUPERCOMPUTER

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Supercomputer				1	7,800	7,800	1	2,645	2,645			

Narrative Justification:

The use of supercomputers in the research, development, test and evaluation (RDT&E) of naval air warfare systems has become essential due to advanced technologies in the systems themselves and the sophisticated threat environments in which those systems must operate. In concert with this technical evolution, requirements for computer intensive analyses at the Naval Weapons Center far exceed the Center's existing computer capabilities. The use of remote supercomputers has been carefully evaluated, but is not practical due to classfied processing requirements (up to Top Secret level). Furthermore, the need for realtime simulation and high speed image processing requires data transmission speeds far greater than can be accomplished remotely.

The FY 1989 procurement will provide a basic supercomputing capability for the Naval Weapons Center. A conservative sizing approach will require vendors to bid a machine which can be upgraded in both memory and processing speed, without committing the Government to purchasing more computing power than actually required. Economic analyses indicate that the basic supercomputer project will yield over $2 million a year in productivity based cost avoidance as a result of the increased speed of processing scientific and engineering data. In addition, another $2 million of cost avoidance each year will occur in the area of weapons systems development as the supercomputer's advanced capability to perform more test and analysis through simulation is used in place of actual flight testing. Such cost avoidance will be realized throughout the 10 year expected useful life of this system.

The FY 1990 effort has three components which will provide significant improvements in computer operations, computer graphics, and mass storage. The first component will increase the number of front end computers from one to three and permit users to submit unclassified or classified

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity

C. ACPI Line No. & Item Description

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost

Narrative Justification:

LO29 CLASS VI SUPERCOMPUTER (CONTINUED)

programs at any time. Front end computers will be dedicated to processing at a designated classification level and provide a significant increase in availability for each classified processing level. The second component would provide an image processing capability for the supercomputer and reduce the time required to analyze and display the data from weeks to just hours and result in substantial cost avoidance. The third component provides funding for contract options under the basic system contract to provide additional mass storage and archival storage capacity. This additional storage will result in more efficient computer operations and reduced processing time for the users. The combiniation of the FY 1990 improvements will provide approximately $3.5 million in total cost avoidance for an investment of some $2.6 million.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL AIR DEVELOPMENT CENTER

C. ACP-1 Line No. & Item Description: L031 FLYABLE RASTER SYMBOL GENERATOR

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Procurement				1	600	600						

Narrative Justification:

Display software which is developed in a laboratory computer often has to be rehosted on a flightworthy computer in order to perform flight tests. If these computers are incompatible the project will be charged excessive software costs and delays may occur. This system will be designed to run the same software in both the laboratory and the aircraft, thus eliminating reprogramming time and costs. Currently at the NAVAIRDEVCEN, three different laboratories (CREST, DFS and TSDF) would benefit from having this flightworthy display computer.

This approach to have a compatible laboratory and aircraft display computer will result in cost avoidance of $150K per year based on reduced contractor effort needed to support non-standard flightworthy computers. The expected useful life of this system is estimated to be 10 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL AIR DEVELOPMENT CENTER

C. Acpl Line No. & Item Description
L032 HIGH SPEED SIMULATION COMPUTER

	FY 1988			FY 1989			FY [illegible]			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
High Speed Simulation Computer				1	600	600						

Narrative Justification:

To enhance its capability to evaluate increasingly complex target and RPV development concepts, designs, and field performance, the Center requires tools to simulate operational performance of these systems and provide realistic operational stimuli under repeatable and controlled conditions. Complex navigation, maneuvers, coordinated multiple vehicle flights, and autonomous control are operations which demand high quality engineering and testing methods. They can only be evaluated through actual flight simulation techniques enabled by the subject computer. Through simulation, system development options can be quickly narrowed and field operational problems can be predicted and resolved prior to expensive exploratory flight exercises. The avoidance of only one such exercise through use of the simulation techniques will save at least $300,000 in range operations and support costs; substantially more costs are avoided if the loss of a vehicle is prevented. The use of this computer will reduce test costs and conserve a costly vehicle inventory. The expected life of this computer is 10 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL COASTAL SYSTEMS CENTER

C. Acct Line No. & Item Description
L033 REALTIME ACOUSTIC SIMULATOR FOR PASSIVE SONARS (RASPS)

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Realtime Acoustic Simulator for Passive Sonars (RASPS)				1	1,550	1,550	1	375	375	1	625	625

Narrative Justification:

The Realtime Acoustic Simulator for Passive Sonars (RASPS) will serve as a component of the System Engineering and Integration Facility (SEIF) which is a laboratory facility supporting surface ship torpedo and acoustic countermeasures projects throughout the development, testing, fleet introduction, and operational phases. The RASPS system will provide the capability to test the Torpedo Countermeasures (CST EX-1) system during development and all phases of operational system life. The Center is the designated Technical Direction Agent (TDA), System Integration Agent (SIA), and Design Agent (DA) for various subsystems of the CST EX-1. Per the Navy Decision Coordinating Paper (NDCP) for Surface Ship Torpedo Defense (SSTD) Systems, the existing torpedo defense capability for all surface ships must be enhanced. To meet this objective, a Rapid Development Capability (RDC) was assigned in the Test and Evaluation Master Plan (TEMP) to the CST EX-1 System to insure timely development.

The RASPS system, while interfaced in real time with the Countermeasures Evaluator (CME) facility and the CST EX-1 Detection System, will provide complete test analysis capability and be capable of performing scenario simulations/stimulations of threat weapons and acoustic signals of various types of platforms. The RASPS system will provide the capability to fully test the CST EX-1 System to determine if it performs the function required by the NDCP.

Not acquiring this system would result in delays in providing the Navy with improved surface ship torpedo and acoustic weapons defense systems.

It is estimated that cost avoidance of $2.6M in reduced at-sea testing requirements could be realized annually over the system's anticipated 15 year life.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL COASTAL SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L034 ADVANCED TECHNOLOGY COMPUTATIONAL FACILITY (ATCF)

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System				1	550	550						

Narrative Justification:

The Advanced Technology Computational Facility (ATCF) at the Naval Coastal Systems Center requires the procurement of an additional computer in order to support the Center's basic research, exploratory development, and specific systems development efforts. This system primarily supports acoustic, signal processing, hydrodynamics, Remotely Operated Vehicle (ROV) simulation, and structure analysis projects performed by the Center's Research and Technology Department. The ATCF operates 24 hours per day, 7 days per week, and is completely saturated from an operational perspective which has resulted in low computational productivity, poor turnaround, and the inability to process specific work tasks. In the interim, commercial ADP resources are being utilized to augment the ATCF, however, this arrangement is not cost effective and does not provide the dedication required to satisfy project needs in the required timeframes.

Not acquiring this equipment would result in delays in the Center's basic research, exploratory development, and systems development programs, therefore delaying the introduction of new technology and systems/equipment into the Fleet.

It is estimated that this investment would provide for cost savings to the Navy of $213K annually over the system's 8 year life.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group Activity: NIF/SPAWAR R&D CENTERS/NAVAL COASTAL SYSTEMS CENTER

C. Appl Line No. & Item Description: L035 COUNTERMEASURES EVALUATOR (CME) TORPEDO HYDRODYNAMIC MODEL COMPUTER

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Analog Computer							1	550	550			

Narrative Justification:

The Countermeasures Evaluator (CME) at the Naval Coastal Systems Center requires the replacement of its current analog computers to improve simulation of torpedo threats for the surface ship and submarine underwater defense programs. The new system equipment will duplicate the ability to simulate two simultaneous torpedo threats as well as extend the capability to simulate four simultaneous torpedoes under specific environmental/physical parameters. The replacement system will also allow for processing of the more sophisticated equations required to simulate today's advanced torpedoes. In addition, the current hardware systems are over 20 years old with service and spare parts becoming extremely difficult to obtain. This factor is causing increasing downtime and system delays.

The most severe impact if this equipment is not procured will be the inability to evaluate multiple hardkill weapons versus salvo threat torpedoes in realistic scenarios. In addition, most advanced counterweapon concepts require a highly manuverable body to successfully complete their mission. The inability of the present computers to run the advanced hydrodynamic models procludes the simulation of advanced counterweapons. In summary, not acquiring this equipment would result in advancement delays in the Navy's torpedo defense programs and the Naval Coastal Systems Center's ability to perform the realistic multi-threat testing and evaluation of surface ship and submarine underwater defense systems.

It is estimated that this investment could provide for cost avoidance to the Navy of $180K annually over the system's 10 year life.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL COASTAL SYSTEMS CENTER

C. Acct Line No & Line Description
L036 TORPEDO DEFENSE ENGAGEMENT MODEL (TDEM) COMPUTER

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System and Installation										1	700	700

Narrative Justification:

The Torpedo Defense Engagement Model (TDEM) will provide a state-of-the-art computing system to support the Navy's sonar and torpedo countermeasure engagement modeling needs for surface ship and submaring countermeasure programs. A recognized torpedo defense engagement model does not currently exist within the Navy. The developing joint United States/United Kingdom (US/UK) Surface Ship Torpedo Defense (SSTD) Program has provided the Navy with a unique opportunity to bring on-line a validated torpedo defense engagement model. Requiring a dedicated computer system, this model will be used to conduct technical mission, campaign, and engagement analysis of new countermeasure concepts and approaches and will allow for evaluation of the countermeasures concepts in terms of accuracy, reliability, and cost effectiveness in a laboratory environment prior to costly at-sea testing. The system will also aid in assessing the impact of proposed countermeasures concepts on the Navy's existing sonar and torpedo countermeasures systems and equipment. The TDEM will complement the Countermeasures Evaluator (CME) facility providing for the full range of analysis capabilities required.

Not acquiring this equipment would halt the further development of the US/UK SSTD program with the US not being able to fulfill its agreement with the UK. Further developments in the sonar and torpedo countermeasures program would be delayed resulting in increased at-sea testing to evaluate countermeasure alternatives.

It is estimated that this investment could provide for cost avoidance to the Navy of $360K annually over the system's 10 year life.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVY COASTAL SYSTEMS CENTER

C. ACP-1 Line No. & Item Description: L037 CME SIGNAL ANALYSIS SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System including Analog/ Digital (A/D) Converters										1	550	550

Narrative Justification:

The Signal Analysis System will support the Navy's surface ship and submarine sonar and torpedo countermeasures programs by providing Naval Coastal Systems Center with the capability to perform detailed signal analysis of data collected during sea trials. Analysis of this data is difficult, time consuming, and costly to perform manually and is an ongoing problem encountered in performing the Center's mission. This analysis will provide the data required to simulate a weapon systems operating environment, which is essential to develop the weapon system, establish reliable test procedures, and accurately assess the weapon system's ability to perform under realistic conditions.

Not acquiring this equipment would significantly impact the Center's ability to timely and cost effectively provide the Navy with a surface ship and submarine sonar and torpedo countermeasure defense. Manual analysis of the data to support the Surface Ship Torpedo Defense (SSTD) Programs has been estimated to require 8 manyears of effort and would result in program delays of approximately 9 months.

It is estimated that cost avoidance of $102K in reduced labor costs to perform data analysis requirements could be realized annually over the system's 10 year life.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L038 COMPUTER SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System				1	700	700						
Installation						100						
TOTAL						800						

Narrative Justification:

The Research, Evaluation, Simulation and Analysis Facility at the Naval Ocean Systems Center provides a simulated, real-time warfare environment necessary to support various Navy programs including Battle Force In-Port Training. Today's naval warfare environment requires weapons of greater complexity, and the time available to the battle force to react to impending threat is diminishing. The exercise by which the Navy tests, refines and improves its warfighting capability depends upon its ability to simulate the warfighting environment. To maintain fleet readiness and its warfighting capability at a minimal cost the Navy must maintain and expand its simulation capability ashore. Utilization of this capability ashore will result in the savings of millions of dollars annually that would otherwise result from the redirection and dedication of fleet assets to meet this need. The acquisition of this computer system for the purpose of scenario generation, simulation and the additional benefit of an R&D analysis tool is a key component of this required ability. The opportunity for meeting the evolving need for improved simulation capability ashore will be lost if the Navy's capability is not improved. This would result in a more costly reassignment of dedicated fleet assets to support these functions.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L039 COMPUTER UPGRADE

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System	1	299	299									
Computer System Upgrade				1	650	650						

Narrative Justification:

The procurement and upgrade of this computer system will provide the Naval Ocean Systems Center a massively parallel processor. By this acquisition the Navy will be able to transition to a commercially available, emerging technology to the Navy's C3I effort. Furthermore acquisition of this capability will increase the Navy's processing of many Command and Control and Intelligence problems by 2 - 3 orders of magnitude. This performance increase will have an immediate impact on fleet command and control and battle management, developing command and control systems and intelligence processing efforts as well as decision support tools for the fleet. For example many existing efforts use computer code which is overly simplified and slower than necessary, yet potentially able to exploit massive parallelism, and there is no current ability to merge the results from two or more computer models. The acquisition of a massive parallel processor will permit this, thus allowing the Navy to integrate large, highly complex warfare simulation presently being developed. Some of these simulations require several days to complete even though the results are frequently needed within minutes or hours. The above processor could allow the results of these simulations to be available when needed. The use of a commercially successful venture minimizes the risk in the Navy's effort to rapidly transition available advanced technology to the solution of fleet problems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L040 Computer System

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System				1	600	600						
Installation						20						
TOTAL						620						

Narrative Justification:

The Naval Ocean Systems Center operates a Program Generation Center which supports the Integrated Combat System Test Facility, the Tactical Warfare Simulation, Evaluation and Analysis System, the Advanced Combat Direction System (ACDS) Block 1 program and various other Navy programs. The existing computer system was refurbished in FY 1987 and continues to provide reliable time-sharing resources to programs at the Naval Ocean Systems Center. However it has become evident that the main thrust of programming activity is moving to the use of MTASS and ADA and programming languages. The ADP assets of the Program Generation Center are unable to host these systems. The compiling systems are hosted on commercially available computer systems. These compilers are becoming the major programming systems, e.g., ACDS Block 1 uses MTASS as their prime programming tool. If the Naval Ocean Systems Center is to continue to provide software generation capability to these and other programs, it is imperative that a new computer system be purchased for the Program Generation Center.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description
L041 SUPERCOMPUTER SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
System							1	5,000	5,000	1	1,500	1,500

Narrative Justification:

The Navy presently faces a critical problem in maintaining a viable ASW capability in the face of radical improvements in the quieting of Soviet submarines. Reductions in submarine radiated noise have been and are projected to be so substantial that evolutionary improvements in detection systems will not restore sufficient capability to counter the submarine's advantages. In response, research and development initiatives aimed at revolutionary performance improvements using very high gain arrays and active sources are underway. However, the success of such concepts is linked inexorably with achieving dramatic improvements in signal processing. To solve the pending ASW problem, orders-of-magnitude improvement in computational capability are required. The NOSC Supercomputer System will be a Class V (or higher) super computer and will be an integral part of a planned facility to develop applications of massively parallel signal processing to ocean surveillance and support sensor system simulations. This facility will couple the supercomputer with one or more highly parallel processors and provide access to live and stored acoustic data. The NOSC Supercomputer System and associated processing resources will be available to the Navy research and development community on a nationwide basis via a secure high bandwidth network. Based on an economic analysis, the expected annual cost decrease of nearly $1.1M indicates a savings-to-investment ratio of 1.7 amortized over an expected 6-year lifetime. This cost savings is due to the reductions in software development time and in at-sea data collection. Algorithm development on the supercomputer is expected each year to result in approximately $550K savings. The ability to timely simulate ocean surveillance problems will reduce at-sea platform and scientific manpower costs by more than $1.3M each year.
An alternative to the supercomputer acquisition is the purchase of a large number of mini-computers and/or array processors. However, this approach requires extensive software development and may not provide the computational power required to solve research and development problems in a reasonable amount of time.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL OCEAN SYSTEMS CENTER

C. ACP-1 Line No. & Item Description: L042 MINI-SUPERCOMPUTER

	FY 1988			FY 1989			FY [illegible]			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Mini-supercomputer							1	750	750			

Narrative Justification:

The Naval Ocean Systems Center performs basic research, exploratory development, analysis, design, implementation, and simulation in assigned mission areas. These areas include command and control, communications, combat system integration, biosciences, surveillance, weapons systems, deep ocean engineering, and submarine arctic warfare.

The equipment to be purchased with these funds is a mini-supercomputer to be operated by the General Purpose Computer Center (GPCC) for use by projects in all of the mission areas mentioned above. A mini-supercomputer currently in-house will be dedicated to the use of some highly classified projects. Projects that now use that computer will need access to another resource. Important examples of intended applications are simulation for command and control projects and signal processing for surveillance.

Cost savings will result from the use of the equipment for some projects, because simulation of performance can be performed prior to actual construction and deployment, and the improved design will have a lower life cycle maintenance cost. However, cost savings are not the primary justification for the equipment. Better performance and increased reliability of the systems delivered to the fleet by projects using the equipment are the real justification. Failure to detect or correctly identify one incoming torpedo or airplane by a single ship (and hundreds of ships will carry systems developed using this equipment during its 6-year lifetime) will cost more than one computer.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/DAVID TAYLOR RESEARCH CENTER

C. ACP-1 Line No. & Item Description: L043 OFFICE AUTOMATION

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
CPU							1	1,000	1,000			

Narrative Justification:

This procurement is to provide a more powerful state-of-the-art computer system to allow full implementation of the planned goal of providing increased Office Automation (O/A) and Communications capabilities to all Center employees. The Center is now installing a multi-million dollar funded network which will provide high-speed access routes to the O/A system. This network will increase the work load on the system by increasing the number of users accessing the system and increasing their through-put capacity. Currently the O/A system provides these services to less than half of the Center employees. The system also supports electronic mail and communications between the Navy Labs, the Center, the Defense Data Network (DDN), and other government agencies. As more users are added and more tasks automated the capacity of the O/A system is now being reached. With the added workload generated by the newly installed network the capacity of the systm will be exceeded and instead of increasing productivity there will be detrimental effects to all users of the system and savings already realized will be lost. Procurement of a more powerful system, in addition to providing more computing power to support the additional workload, will save computer room space and result in cost savings in mainten- ance, air conditioning, and electrical power usage.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. APN-1 Line No. & Item Description
L044 ADVANCED SUBMARINE TECHNOLOGY OPERATIONAL AUTOMATION

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Digital Comp				2	100	200	3	100	300	3	20	60
Adv Graphics							2	45	90			
Mass Memory							5	20	100			
Mass Storage							7	5	35	3	5	15
Supporting Peripherals										1	100	100
TOTALS						200			525			175

Narrative Justification:

The projected strategic and technological environments for submarines in the year 2010 indicates the requirement for a departure from the traditional evolutionary design of submarine systems. The Operational Automation segment under the Advanced Submarine Technology Program (ASTP) sponsored by DARPA provides the framework to reach beyond present approaches for submarine systems management. The goal is to achieve full operational automation. However, the degree of system autonomy will be dictated by the political and technological environment of the 2010 timeframe, in particular, data and information clustering algorithms, integrated ship-management planning tools and templates, a synergistic man-machine interface, and a tactically fluent command assistant.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/DAVID TAYLOR RESEARCH CENTER

C. ACP-1 Line No. & Item Description
L045 SUPERCOMPUTER SYSTEM ADDITIONS AND MODIFICATIONS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Systems Additions							1	120	120	1	2,040	2,040

Narrative Justification:

The Supercomputer System which was installed in FY88 provides the primary Scientific and Engineering computing capability for the David Taylor Research Center. Initial implementation cost is minimal. Large engineering applications produce volumes of temporary data far exceeding the memory of the current systems. Experience has also shown that as more computing power becomes available, scientists and engineers utilize this power to develop more precise calculations of the physical data they are investigating. As a result, more computing resources are utilized to complete a given project. Additional and faster storage devices are required to keep up with the increasing demands for these resources. Finally, the Center is accepting more and more classified projects and the users of the Supercomputer System require a system that will provide interactive classified processing to complete these projects in a timely manner. This is not possible given the configuration of the current system. This procurement is for additions and modifications to the system to provide a state-of-the-art resource for all Center scientists and engineers, to support the computing needs of Center projects of the 1990's and to provide interactive classified processing for Center users. A combination of additional memory, processors, storage media and tape drives will be procured to satisfy these needs.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACEI Line No. & Item Description
L046 S&E-MASS STORAGE EXPANSION

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
MSAS Drives				1	500	500	1	500	500			

Narrative Justification:

The Mass Storage Archival Subsystem (MSAS) consists of a magnetic tape drive and tape handler capable of storing 70 trillion bytes of very large research and engineering files and databases. These storage subsystems are an integral part of the classified and unclassified scientific and engineering (S&E) computing systems supporting the entire Center and currently process 3000 jobs per day. When the global disk file system that supports a given S&E computer becomes full, the oldest files on the global system are transferred to the MSAS. When the user again needs this file, space is provided on the global file system and the user's file is transferred back from the MSAS to the global file system. In essence the MSAS provides a relatively slow magnetic storage media for large masses of data.

The MSAS on the unclassified Control Data Corporation (CDC) 875 computing system is reaching saturation. If the MSAS subsystem gets fully saturated the entire computing system would come to a halt awaiting space to store new data. This would interrupt all users on the system. To solve this problem, a MSAS subsystem must be added to the unclassified CDC 875 computing system in FY-89. Another MSAS subsystem will be required in FY-90 for utilization with the CDC990 computer that is scheduled for installation in early FY-89. The expected life of the system is 6 years. An alternative to the MSAS expansion would be to develop new software to emulate the MSAS functionally on a standard magnetic tape subsystem. This approach would cost over $1M in new system software development plus $1.4M for a massive tape subsystem and would require 5 times the floor space of one MSAS. The most cost effective approach available is to procure additional MSAS subsystems. Both devices are under an existing contract with CDC. Installation of this equipment will be in existing computer space and no modifications or other government expenses will be incurred. The existing maintenance contract calls for the vendor to provide all necessary manpower for installation.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACT-1 Line No. & Item Description: L047 S&E-EXPAND EXTENDED MEMORY

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Extended Memory				1	500	500						

Narrative Justification:

The expansion of the extended memory computing component will provide a high speed mechanism for coupling the Control Data Corporation (CDC) 990 computer, to be installed in early FY89, with the existing CDC875 computer to form a loosely coupled computing system running in an unclassified mode. This configuration provides the capability for direct sharing of program and data files between users of the two Scientific & Engineering (S&E) computer systems. This eliminates the need to physically move programs and data files between systems and provides a dynamic means of work load balancing between systems. The extended memory capability eliminates the need for additional operations personnel to perform physical movement of files between systems and to physically perform workload balancing tasks. In addition, the extended memory capability provides secondary level high speed memory for processing large arrays of data without swapping the arrays to slower disk devices. This capability fosters operational efficiencies and improves job through-put resulting in material cost/benefits for Center programs. The inability to transfer files between computers on demand reduces the availability to the user of host depended software packages residing on other machines.

The memory is covered in the existing contract with CDC. Installation of this equipment will be into an existing computer and no modification to facilities or other government expenses will be necessary. The existing maintenance contract calls for the vendor to provide all necessary man power for installation.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. APN-1 Line No. & Item Description
L048 OA-MINICOMPUTER REPLACEMENTS

	FY 1988			FY 1989			FY [illegible]			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Minicomputers				5	407	2,035						

Narrative Justification:

The Center's integrated Office Automation (OA) system currently provides tools for information management to over 1500 users: administrative, management, and technical personnel, including all line management and staff. Intangible benefits have accrued through improved worker productivity and performance. Various indicators of productivity enhancement show increases of at least 20 percent above baseline levels. If we assume that a man year cost is $90K, and we use a conservative 10 percent increase in productivity for 1400 users, then our return on investment is $12.6M per year. The tools provided include electronic mail, word processing, data management, forms processing, and personal computer file transfer. The users are physically located throughout the Center, including the five remote facilities.

In addition to the new users that are placed on the office automation systems each year, service to current users is continually being upgraded. These upgrades are in the form of moving users to more powerful systems, expanding memory and/or number of ports on current systems, and by providing additional applications.

Currently, 5 of the 20 minicomputers in this system are near the end of their useful life. This investment would replace 5 VAX 11/780 machines with competitively procured latest technology, more powerful machines with larger storage and memory capability, and additional communication ports. The cost of operation would decrease and more customers could be served with better quality. These replacements will also reduce computer room crowding because they have a much smaller footprint.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTER3/NAVAL SURFACE WARFARE CENTER

C. ACT-1 Line No. & Item Description: L049 S&E-CDC 990 COMPUTER

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment	1	3,900	3,900	1	1,200	1,200						

Narrative Justification:

This is part of a 1983 competitive procurement, time-phased in optional increments for a 10 year program providing Scientific & Engineering (S&E) computing support for all major programs at the Center. The FY88/89 procurement provides Control Data Corporation (CDC) 990 computing equipment to overcome validated capacity deficiencies faced by multiple major NSWC programs (Standard Missile, Space & Geodesy, AEGIS,....). Without this computer system, all users have increased costs and technological risks -- because they then must use alternative higher cost resources, and/or accept lower quality and late R&D results and risk reduction in warfare systems acquisitions and upgrades. Cost avoidance resulting from this action will be $300K in FY 1989 and will increase at a rate of 30 percent per year. Major Navy programs at NSWC are planning on the capability and cost advantages of this CDC990 computing system. The system will become operational in early FY89. Refurbishment of available facility space is under way on a compatible schedule. The procurement is in line with planned growth that was built into the original contract and projected work load growth, along with the necessary up-grades to maintain a favorable cost/benefit ratio. The expected life of this system is 6 years.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACP-1 Line No. & Item Description: L050 MINI-SUPERCOMPUTER

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment							1	570	570			
Installation									30			
TOTAL									600			

Narrative Justification:

The requested mini-supercomputer will be used to develop and run computer codes which solve problems of interest to the Navy and the Defense Nuclear Agency (DNA). The Center has developed codes which have become widely used and accepted in government and industry in support of projects such as the Standard Missile Program of the Navy, Rail Garrison, and the Weapons Effects Manual (EM1) program of DNA. These codes represent the state-of-the-art in Computational Fluid Dynamics (CFD). The mini-supercomputer will widen the scope of problems for which these codes can be used. In addition it will permit these codes to be run more economically and allow further development of CFD codes for use on supercomputers.

The requested Mini-Supercomputer should be one-third as powerful as the CRAY-1 Series of Supercomputers. Assuming the Center could keep the computer running continuously, this machine would yield the equivalent of 2920 Cray hours per year. Projecting the average cost of CRAY time over the next six years at $200 per hour, the Mini-supercomputer would yield $730K worth of CRAY time per year. Averaging over the expected six year lifespan of the Mini-Supercomputer, taking into account yearly maintenance costs, the savings in computertime to the government would total at least 3,120K. This does not take into account the increased productivity of Center personnel owing to their access to adequate computational resources.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACP-1 Line No. & Item Description: L051 ADVANCED CPU

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment							1	565	565			
Installation							1	10	10			
TOTAL									575			

Narrative Justification:

This Central Processing Unit (CPU) will be added to an existing computer system that is used to provide systems support to the Navy in the areas of weapons effectiveness analysis, systems accuracy, and target vulnerability. Analysts in each of these areas develop, modify, and support a wide variety of simulation programs and data bases. These efforts support many Navy programs, including AEGIS STANDARD Missile, PHALANX, HARPOON, TOMAHAWK, BLOCK PROGRAMS, PHOENIX, SSVP, JTCG/ME, and a number of gun weapon system programs.

The procurement of an advanced CPU and additional disk storage is part of an approved (1986) 9-year Information System (IS) Project. This procurement will address the increasing need for more comprehensive and sophisticated simulations in the three major areas mentioned above. The advanced CPU will address the increased run times of these simulations and help to provide results on a timely delivery schedule. As the sizes of these simulations grow in proportion to their increased scope, a large increase in disk space will be necessary to store the larger executables, data files and graphics images they produce.

Without these increased capabilities, it will not be possible to supply a sophisticated systems analysis capability that is timely, accurate, comprehensive and cost effective.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. Acct Line No. & Item Description: L052 S&E-ADD CPU CLASSIFIED SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
CPU							1	800	800			

Narrative Justification:

An additional CPU (Central Processing Unit) is needed to increase the capacity of the Center's classified Scientific & Engineering (S&E) computer system to meet expanding classified computing requirements. This expansion is an incremental part of the previously approved 1983 competitive procurement, time-phased in optional increments for a 10 year program providing general purpose computing at NSWC. The system supports numerous NSWC programs including SLBM (Submarine Launched Ballistic Missile), AEGIS and Space and Geodesy. By FY-90 the classified computing system will be completely saturated. This will create a situation of slow job turn-around time resulting in lost productivity of Center scientists and engineers as well as potentially causing delays in R&D deliveries to the fleet. The procurement is in line with planned growth built into the original contract and has a projected life of 6 years.

The CPU is covered in the existing contract with the Control Data Corporation. Installation of this equipment will be in existing computer space and no modifications or other government expenses will be necessary. The existing maintenance contract calls for the vendor to provide all necessary manpower for installation.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACI-1 Line No. & Item Description: L053 ADVANCED ARITHMETIC PROCESSOR

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Advanced Arithmetic Processor							1	898	898			
Installation									2			
TOTAL									900			

Narrative Justification:

NSWC has principal responsibility for the research, development, testing, and evaluation of effective ASW underwater weaponry. The Underwater Warhead Analysis Facility at the Naval Surface Warfare Center was established to provide a unique Navy computational capability for personnel involved in the development of underwater warheads. Improved computational capability is needed to evaluate, analyze and optimize new designs, reduce developmental risk, and evaluate the effectiveness of weapons systems involved in the LIVE FIRE test programs. Realistic simulations of complex explosive interactions during testing and development are critical to insure that the weapon system will perform, as required, at sea. NSWC will not be able to provide full support to the Fleet without the requested Advanced Arithmetic Processing System.

The primary benefit of this competitive procurement is the ability to develop new designs with high probability of meeting performance requirements at minimum testing costs. Previous attempts at simulating complex interaction of explosive systems underwater were unsuccessful due to the limited memory and mathematical power of existing classified processing systems. The proposed system will reduce the risk and cost by over $300K per year by minimizing the number of full scale live explosive tests, which would become necessary for the completion of mandated goals for safety, reliability, and performance.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACPS Line No. & Item Description: L054 NOA-MINICOMPUTERS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Minicomputers							2	500	1,000	2	500	1,000

Narrative Justification:

To provide minicomputers for the prototyping and production of print, mail and file servers for NOA (NSWC Office Automation) customers.

The NOA program plans to produce a system that takes advantage of personal workstation technology to provide OA functionality for business and technical work throughout the Center. The system will provide the tools with which users will create electronic data and exchange information between systems. The NOA program will develop and then provide a computing environment in which the required set or suite of business and technical computing functions (tools) are available to each user.

Initial planning has indicated that a phased approach needs to be used to reach NOA's goals. systems will be defined and implemented as technology allows, starting with less sophisticated and progressing toward a system which provides full OA functionality. All systems recommended by NOA will have evolved through evaluation, development and prototyping before being released for production.

Data collected from the current Center-wide OA system, shows a 20 percent to 35 percent gain in productivity by customers. It is anticipated that NOA customers will realize similar or greater gains. It is estimated that each server will support approximately 125 users. If we asume a value of $90K/manyear and a conservative 20 percent productivity savings, the return on investment (2 servers, approx 250 users) will be on the order of $4.5M annually. Additionally, because NOA is addressing the PC/OA functionality issue from a Center-wide perspective, with plans to provide Center-wide services, isolated redundant efforts should be minimized.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACP-1 Line No. & Item Description
L055 S&E-FOLLOW-ON MAJOR SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
S&E Computer System										1	3,500	3,500

Narrative Justification:

This system represents a major upgrade to the existing Scientific and Engineering (S&E) computing system which was competitively procured in 1983. The system will be a time-phased competitively procured computational capability with options to satisfy NSWC's computing requirements through the year 2000. This new system will be implemented in increments during the decade beginning in FY-91. During the period FY91-94, a total investment of $28M will be needed to obtain a high performance classified computing system and a high performance unclassified computing system. The computing needs during the decade beginning 1900's will require a 10 fold increase in high performance computer capacity to satisfy computational requirements of Center programs. Obsolete equipment will be released beginning in FY92 as more powerful replacement system components are made operational. The follow-on system is needed to meet the expanding computational requirements of major Center programs such as STANDARD Missile, SLBM (Submarine Launched Ballistic Missile), Space and Geodesy, and AEGIS as well as numerous smaller programs especially in the Center Technology Base areas. The new more powerful system will make it possible for more timely solutions of problems currently not solvable on Center resources. Additional benefits of the follow-on system are as follows:

a. Provide a computational tool to solve major technological problems relating to future warfare systems which will be more complex and robust than present day systems.

b. Provide the speed and capacity to perform detailed three dimensional structural analysis. Currently, only coarse 3-D structural computations are possible because of limitations of available computer resources.

c. Provide complete and efficient systems simulation and modeling for improved accuracy of weapon systems and battle management for tactical and strategic systems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity

C. ACP-1 Line No. & Item Description

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost

Narrative Justification:

L055 S&E-FOLLOW-ON MAJOR SYSTEM (CONTINUED)

d. Provide long term cost-effective means of meeting Center computational requirements. The cost per computation will be dramatically reduced due to technological advancements in computing components and computer system integration.

e. Provide resources to solve computationally intense three-dimensional fluid dynamic problems for effective and efficient missile design.

The procurement of a follow-on system represents a $22 Million savings in life cycle support cost versus a status quo situation. Without the follow-on system, the research and development needed for timely deployment of mission critical Fleet products will be jeopardized and the above benefits will not be obtained.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL SURFACE WARFARE CENTER

C. ACPI Line No. & Item Description
L056 SOFTWARE ENGINEERING ENVIRONMENT (SEE) DATA BASE MACHINE

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment										1	500	500

Narrative Justification:

NSWC has major system and software engineering responsibilities for TRIDENT, TOMAHAWK, AEGIS, Underwater Weapon System, and many other Fleet systems. Tasks range from the definition of requirements through the conduct of software life support functions. The Center has initiated an effort to increase productivity, quality and commonality across these programs through the establishment of a System/Software Engineering Environment (SEE). This facility will be used to develop and/or assess, distribute and support tools of benefit to the user community. The facility will also disseminate information of importance and provide for communication between users to increase sharing of tools, algorithms, techniques and data bases. The Data Base Machine is an integral part of the planned facility. It is needed to store, manage, manipulate and access the large information base which is required to perform the SEE functions.

Without the SEE the various programs will be forced, as they have in the past, to individually develop/evolve and support engineering environments, which contributes to escalating costs.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACT-1 Line No. & Item Description
L057 DIGITAL DATA ACQUISITION SYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Playback Recorder	2	200	400									
Data Decommuter	2	118	236									
Magnetic Disk Drive	3	38	114									
Array Processor				1	237	237						
Hard copy unit				1	14	14						
TOTALS			750			251						

Narrative Justification:

The Digital Data Acquisition System (DDAS) being procured will provide advanced acquisition and processing capability to NUSC technology development programs. It will support measurement efforts that are torpedo borne, ship borne, and land based. The DDAS will support programs working in noise reduction, novel vehicles evaluation, mobile acoustic systems, and more.

The capability that will be provided by DDAS is vital for the development of new torpedo quieting technology urgently required by the Navy to meet the improved capabilities of threat targets.

In FY 1986 NUSC began a $3M commitment to provide a large capacity, high density, record/playback system which includes state-of-the-art digital recording techniques. The funding profile is: FY 1986 - $250K, FY 1987 - 1,750K, FY 1988 - 750K, FY 1989 $251K. This same system will require an estimated $114K/year to operate and maintain. To rent or lease equivalent equipment is projected to cost $946K/year. Based on a 15 year useful lifespan (based on historical usage of similar equipment), the total cost of the DDAS will be $4.7M. Renting/leasing over the same period is projected to be $14.2M. Therefore, the total savings of procurring the DDAS would be $9.5M or $633K/year.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACP-J Line No. & Item Description
L058 ADVANCED REAL TIME STIMULATOR (ARTS)

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Real Time Stimulator							1	600	600			

Narrative Justification:

ARTS will be the follow-on stimulator for operational equipment in the Land Based Integration Test Site. ARTS will develop element level stimulation capability in software, permitting both the high fidelity required to support advanced development systems and a high degree of flexibility, reducing maintenance and modification costs substantially.

The current stimulator cannot fulfill this mission for developing systems and is only marginally capable for the existing combat system.

ARTS will significantly reduce maintenance and modification costs and will also result in personnel and rental cost avoidance. Overall, the net annual cost avoidance will be more than $250K.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. A.P.I. Line No. & Item Description
1059 KNOWLEDGE BASED SYSTEMS

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Computer System	1	400	400	1	500	500	1	300	300			

Narrative Justification:

Studies have been initiated at NUSC in the application of "Expert Systems" to combat control system problems. Progress is being made, but new "state of the art" equipment is required. Anticipated advances in submarine platform systems, coupled with technological breakthroughs in computing capabilities, intelligent human-machine interfaces, knowledge acquisition, and machine learning need to be demonstrated. These new intelligent systems will assist in the identification and prosecution of complex tactical situations. Projects to be supported are advanced expert systems funded by DARPA and submarine operational automation under an Advanced Submarine Technology Program.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION: FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity: NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. Acct Line No. & Item Description: L060 VIDEO TELECONFERENCING

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
VTC Room							1	600	600	1	600	600
Installation									25			15
TOTALS									625			615

Narrative Justification:

This video teleconferencing (VTC) room equipment is to accommodate VTC meetings between NUSC New London, CT and NUSC Newport, R.I. and particularly with NAVSEA Headquarters and other Navy system commands as well as with NUSC DOD contractors (e.g., GE Syracuse, NY; Boeing, Seattle, WA).

These additional nodes will reduce travel, improve communications, and improve personnel productivity.

Existing NUSC Video Teleconferencing capability has produced yearly cost avoidance of $90K in travel costs and $620K in labor costs. Additional nodes will increase savings as their communication ranges expand. The overall net annual cost avoidance adds up to over $700K per node.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACTivity Line No. & Line Description
L061 HARDWARE TEST-BED

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Digital Computer							1	600	600	1	400	400

Narrative Justification:

The digital computer, peripherals and display systems to be procured will be used for advanced combat control systems studies in human factors, operability, performance, evaluation, and attack center configurations. The hardware test-bed will support engineers and scientists by providing a commercial hardware environment similar to submarine combat control systems. It will provide the necessary tools and computational capacity not available on the burdened time-sharing systems used for initial development. The system will support advanced concepts in display authoring, algorithm development and advanced expert systems.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. Acct Line No. & Item Description
L062 COMPUTER COMPLEX UPGRADE

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Super-mini computers										2	500	1,000

Narrative Justification:

The equipment is to provide an incremental addition to the current general purpose computational capacity of the central computer at the Naval Underwater Systems Center. The available central computer capacity will reach an expected peak processor usage as reflected by historical on-line analysis of 100 percent. This substantially impacts the time sharing environment by increasing the user response time to greater than 30 seconds which is unacceptable to the user community. Further growth is expected in the interactive graphics environment, engineering analysis (PATRAN and NASTRAN), Center data bases, and project management computer systems. Disapproval of the procurement of additional central processor capacity will leave the system in a state of gridlock. Work that is anticipated will not be able to be performed and the current work load will reach a point of system saturation and therefore, seriously impact our users.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL UNDERWATER SYSTEMS CENTER

C. ACPJ Line No. & Item Description
L063 DISK SUBSYSTEM

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Disk Subsystem										2	600	1,200

Narrative Justification:

This equipment will supplement existing rotating *memory* peripherals for the Center's main administrative computer. This will provide additional mass storage for the Center's scientific and engineering users. The available administrative computer disk capacity will reach an expected utilization of 100 percent. Once capacity has been reached, additional requirements for data storage can not be met. This substantially impacts the time sharing environment by increasing user response time due to operator intervention. It is anticipated that user disk storage requirements will continue to grow at 20 percent to 30 percent per year. Disapproval of the procurement of additional disk storage capacity will leave the system in a state of gridlock. Work that is anticipated will not be able to be performed and the current work load will reach a point of system saturation and therefore, seriously impact our users and the projects that are depending on the utilization of the adminstrative computer.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS/NAVAL WEAPONS CENTER

C. ACP-1 Line No. & Item Description
L064 DATABASE SUPPORT AND REMOTE VAX MANAGEMENT

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Central Processing Units and High Capacity Disk Drives										1	950	950

Narrative Justification:

This line item provides for the replacement of technologically obsolete equipment in the Scientific and Engineering Computer Facility. In order to effectively support the Center's Mission it is expected that new, cost efficient computer technology will have to be employed to access, process, manage, and store the huge masses of data associated with sophisticated weapons development. Specifically this calls for the replacement of 3 ten year old VAX 11/750 class computers, high capacity disk drives, and upgrade hardware for a data base machine. These new systems will have 8 times the throughput of the present configuration.

REMOTE VAX MANAGEMENT

Presently there are multiple VAX class systems in operation at NWC. Each one of these systems require a system manager. NWC is establishing a "remote VAX management" capability. Essentially this means that one person can support several systems from a central point thus eliminating the requirement that each system have its own manager. This method of managing these systems will serve to avoid significant increases in labor costs for system mamangement (costs associated with ten system managers could be avoided in year one alone). This method of management can't be accomplished without the increase in central computing capability described above.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group Activity
NIF/SPAWAR R&D CENTERS

C. Appl Line No. & Item Description
L065 OTHER EQUIPMENT COSTING UNDER $1 MILLION EACH

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment Acquisition			69,007			38,579			22,154			30,107

Narrative Justification:

This line item supports the general purpose equipment requirements of the seven SPAWAR R&D Centers. These Centers have a population of approximately 24,000 scientists, engineers and support personnel who manage technical programs with a total value of $3.4 billion per year. It covers a myriad of equipment and tools costing less than one million dollars each, which, in general, provide various capabilities:

(1) to realize technology gains where only theory existed;
(2) to complete R&D with definitive results, making decision-quality information available, thereby reducing the risks of technology insertion;
(3) to complete R&D sooner than otherwise possible, enabling technical decisions earlier in the acquisition cycle, thereby lowering costs and subsequent risks;
(4) to replace manually operated and controlled equipment with computer-controlled equipment, providing greater reliability, quality, productivity and safety; and
(5) to add security and safety features to current capability, thereby gaining compliance with new regulations and avoiding risks of error and loss.

The acquisition of this equipment improves the quality and productivity of the R&D Centers' technology support to the Navy and continues the goal to modernize equipment inventories to meet commercial standards of average expected useful life (EUL) of 9-10 years. More than 40 per cent of the inventory currently exceeds this value.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 BIENNIAL

B. Industrial Fund/Activity Group/Activity
NIF/SPAWAR R&D CENTERS

C. ACPJ Line No. & Item Description
L066 MINOR CONSTRUCTION

ELEMENTS OF COST	FY 1988			FY 1989			FY 1990			FY 1991		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Minor Construction			8,000			12,207			14,355			14,815

Narrative Justification:

Minor construction is used by the seven SPAWAR Research and Development Centers to accommodate new requirements, modernize and replace obsolete facilities. The Centers are located in 36 sites throughout the nation and have 13.4 million square feet of laboratory and office space. The Centers' real property acquisition costs have been more than $780 million, replacement costs in comparison would be much greater.

Minor construction is used in the Centers to modify existing spaces or to construct new facilities mainly to provide suitable space to test and design new equipment for the forces afloat, often in a protected environment, frequently in physically secure areas. Some examples of these projects are: rearrange space in an existing building to test missiles in a shielded, radiation free environment; construct a security fence around a building where highly sensitive information will be used; alter space and install foundation for an anechoic chamber; construct laboratory and office space for engineers and scientists for conducting a development program in submarine fire control systems; and construct a test facility for a pulsed neutron source. Provide housing or altered laboratory space for an optical laser facility, a telerobotic laboratory, a global network simulation facility, and a 60-ton centrafugal chiller are some examples of unique or custom designed spaces for the particular accommodation of the equipment being procured.

DEPARTMENT OF THE NAVY
MARINE CORPS INDUSTRIAL FUND
ASSET CAPITALIZATION PROGRAM
FY 1990/1991 PRESIDENT'S BIENNIAL BUDGET
(Dollars in Millions)

Line Number	Item Description	FY 1988		FY 1989		FY 1990		FY 1991	
		Quantity	Total cost	Quantity	Total Cost	Quantity	Total Cost	Quantity	Total Cost
1	Equipment Purchases under $1 million each	101	3.9	62	3.1	40	2.3	58	2.7
2	Minor Construction Projects	24	2.1	21	1.9	5	.9	6	.9
3	Management Informations Systems under $1 million	1	.5	1	.5	1	.2	1	.2
	GRAND TOTAL ACP		6.5		5.5		3.4		3.8

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 President's Biennial

B. Industrial Fund/Activity Group/Activity
Marine Corps Industrial Fund/Depot Maintenance

C. ACP-1 Line No. & Item Description
1 Equipment Purchases Under $1 Million

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Equipment Purchases	101		3,900	62		3,100	40		2,361	58		2,675

Narrative Justification:

These equipment purchases play a vital role in the DMA's ability to harness technology and labor saving devices to more efficiently execute the workload. Some purchases in the prior year include: engine lathe, unit level circuit switch test equipment, and retrieval system. Purchases in the current year a synthesized generator, a technical manual development system, Diagnostic Console, Radiac Calibrator System, 3-Ton Crane, Clean Air Ventilation System, Machine Blast Booth and a Vertical Computerized Numerical Control Mill Machine. Purchases in the Budget Years include Spectrum Analyzers, Ultasonic Test Equipment, Multi-Function Generator, Laser Support Test Station, Automated Parts Storage, Lathe-Compact, Milling Machine, Master Calibrator and Crankshaft Grinder.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 President's Biennial

B. Industrial Fund/Activity Group/Activity
Marine Corps Industrial Fund/Depot Maintenance

C. ACP-1 Line No. & Item Description
2 Minor Construction Projects

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Minor Construction	24		2,100	21		1,900	5		867	6		923

Narrative Justification:

The Minor Construction projects above are necessary for environmental improvements to enhance employee productivity, safety, and morale. The projects also play a vital role in the long range development of our industrial facilities. A few such projects are: Non-Destructive Test Facility, Expand Hardstand, Employee Development Facilities, CARC Paint Booth, Radar Pad 400HZ Power Distribution, Install Elevator for Handicapped and Upgrade Sheet Metal Machine Shop.

ASSET CAPITALIZATION PROGRAM JUSTIFICATION SHEET
(Dollars in Thousands)

A. BUDGET SUBMISSION
FY 1990/1991 President's Biennial

B. Industrial Fund/Activity Group/Activity
Marine Corps Industrial Fund/Depot Maintenance

C. ACP-1 Line No. & Item Description
3 *Management Information Systems under $1 Million*

	FY 1988			FY 1989			FY 1990			FY 1991		
ELEMENTS OF COST	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Software System Development	1		530	1		500	1		207	1		247

Narrative Justification:

The Software Development is necessary to support the DMA Automated Production Control System.