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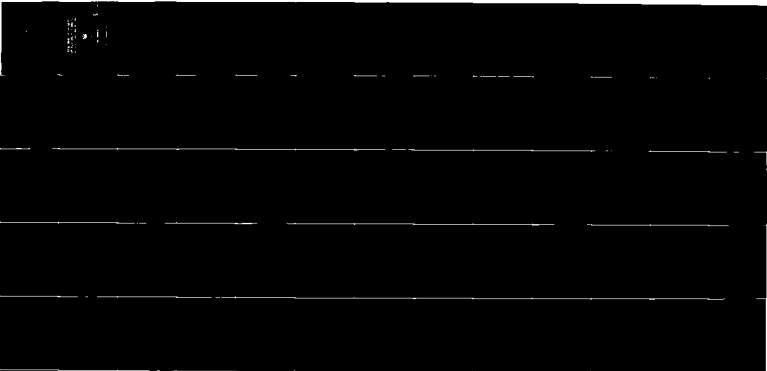
DEPARTMENT OF THE NAVY JUSTIFICATION OF ESTIMATES FOR  
FISCAL YEAR 1988/19 (U) OFFICE OF THE COMPTROLLER  
(NAVY) WASHINGTON DC JAN 87

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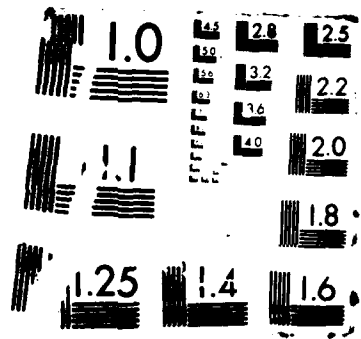
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**DEPARTMENT OF THE NAVY  
JUSTIFICATION OF ESTIMATES  
FOR FISCAL YEARS 1988 AND 1989**



AD-A181 972

**SUBMITTED TO CONGRESS JANUARY 1987**

**PROCUREMENT**

**OTHER PROCUREMENT, NAVY**

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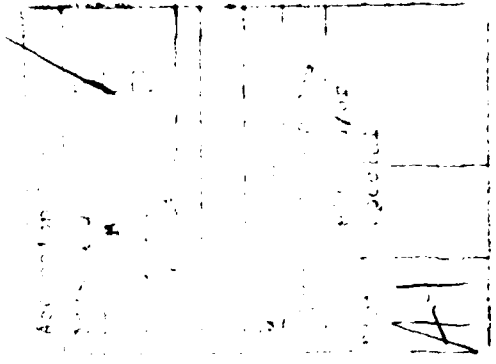
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Department of the Navy  
Other Procurement, Navy

Justification of Estimates for Fiscal Year 1988 and Fiscal Year 1989

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Other Procurement, Navy

For procurement, production, and modernization of support equipment and materials not otherwise provided for, Navy ordnance and ammunition (except ordnance for new aircraft, new ships, and ships authorized for conversion) the purchase of which not to exceed two vehicles required for physical security of personnel notwithstanding price limitations applicable to passenger carrying vehicles but not to exceed \$100,000 per vehicle; the purchase of not to exceed [eight hundred and sixty-one] passenger motor vehicles of which [seven hundred and seventeen] shall be for replacement only; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, [as follows: Ship support equipment, \$1,037,619,000; Communications and electronics equipment, \$2,006,277,000; Aviation support equipment, \$788,366,000; Ordnance support equipment, \$1,245,355,000; Civil engineering support equipment, \$209,041,000; Supply support equipment, \$71,823,000; Personnel and command support equipment, \$502,498,000; Spares and repair parts, \$293,692,000; in all: \$6,033,371,000]; \$4,983,827,000, of which \$55,200,000 shall be available only for the Navy Reserve, to remain available for obligation until September 30, [1989: Provided, that within the total amount appropriated, the subdivisions within this appropriation shall be reduced by \$121,300,000] 1990. Further, for the foregoing purposes the purchase of which not to exceed two vehicles required for physical security of personnel notwithstanding price limitations applicable to passenger carrying vehicles but not to exceed \$100,000 per vehicle; including the purchase of [eight hundred and thirty-two] passenger carrying motor vehicles of which [seven hundred and seventy-four] shall be for replacement only; \$6,577,530,000, of which \$63,300,000 shall be available only for the Navy Reserve, to become available for obligation on October 1, 1988 and to remain available for obligation until September 30, 1991. (10 U.S.C. 5013, 5063; Department of Defense Appropriation Act, 1987.

05 Jan 87

Other Procurement, Navy  
Program and Financing (in thousands of dollars) SUMMARY

Identification code	Budget plan (amounts for PROCUREMENT actions programmed)					Obligations		
	1986 actual	1987 est	1988 est	1989 est	1986 actual	1987 est	1988 est	1989 est
<b>Program by activities:</b>								
<b>Direct program:</b>								
0 0101	816,614	1,028,579	783,716	941,566	762,598	1,059,442	781,964	975,657
0 0201	1,831,985	1,996,350	1,712,635	2,279,338	1,656,970	2,123,331	1,880,480	2,054,974
0 0301	1,044,608	788,366	692,532	739,795	866,600	933,339	897,700	1,415,268
0 0401	1,152,565	1,144,885	769,542	1,372,832	1,069,348	1,086,582	1,588,063	1,181,411
0 0501	217,642	201,144	116,800	156,812	275,295	184,642	75,409	122,383
0 0601	55,242	69,971	122,005	156,543	430,143	648,054	502,714	557,794
0 0701	516,768	502,478	308,876	330,091	141,379	338,025	305,981	326,901
0 0801	233,025	289,858	308,876	330,091	141,379	338,025	305,981	326,901
0 9101	5,868,449	6,021,671	4,983,827	6,577,530	5,279,973	6,461,087	5,227,057	6,282,889
1 0101	18,231	25,000	1,000	25,000	10,021	50,760	25,000	25,000
0 0001	5,886,680	6,046,671	5,008,827	6,602,530	5,289,994	6,511,347	5,252,057	6,307,889
0 0001	Total							
<b>Financing:</b>								
Offsetting collections from:								
1 0001	-12,290	-17,500	-17,500	-17,500	10,540	-17,500	-17,500	-17,500
3 0001	-4,527	-5,000	-5,000	-5,000	634	-5,000	-5,000	-5,000
4 0001	-1,664	-2,500	-2,500	-2,500	-1,591	-2,500	-2,500	-2,500
7 0001					-33,429			
1 4002	-310,647	-267,167			-2,171,598	-2,564,780	-2,100,104	-1,856,874
1 4003	-209,077				-310,647	-267,167		
2 4001	276,935	33,964			276,935	33,964		
3 4001	119,322	233,203			119,322	233,203		
3 4002								
4 4002	267,167	12,400			2,564,780	2,100,104	1,856,874	2,151,515
4 0003	89,869				267,167	12,400		
5 0001	6,102,018	6,034,071	4,983,827	6,577,530	6,102,018	6,034,071	4,983,827	6,577,530
9 0001								
<b>Budget authority:</b>								
0 0001	6,081,631	6,033,371	4,983,827	6,577,530	6,081,631	6,033,371	4,983,827	6,577,530
1 0001	6,000	14,900			-6,000	-26,600		
2 0001	26,367				26,367	14,900		
3 0001	6,102,018	6,021,671	4,983,827	6,577,530	6,102,018	6,021,671	4,983,827	6,577,530
4 0001		12,400			12,400			
5 0001								
9 0001								
<b>Appropriation (adjusted):</b>								
0 0001	6,081,631	6,033,371	4,983,827	6,577,530	6,081,631	6,033,371	4,983,827	6,577,530
1 0001	6,000	14,900			-6,000	-26,600		
2 0001	26,367				26,367	14,900		
3 0001	6,102,018	6,021,671	4,983,827	6,577,530	6,102,018	6,021,671	4,983,827	6,577,530
4 0001		12,400			12,400			
5 0001								

05 Jan 87

Other Procurement, Navy  
 Program and Financing (in Thousands of Dollars) SUMMARY

Fiscal year code	17 1810 0-1 051		1986 actual		1987 est		1988 est		1989 est	
Cancellation of obligations to outlays										
1 0001	Obligations incurred, net		5,299,577	6,486,347	5,227,057	6,282,889				
2 4001	Obligated balance, start of year		6,600,979	7,756,227	9,280,884	9,208,569				
4 4001	Obligated balance, end of year		-7,756,227	-9,280,884	-9,208,569	-10,046,821				
7 0001	Adjustments to expired accounts		57,221							
8 0001	Adjustments to unexpired accounts		-33,429							
0 0001	Outlays		4,166,122	4,963,890	5,299,372	5,444,637				

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Other Procurement, Navy  
 Program and Financing (in thousands of dollars) FISCAL YEAR 1984

Identification code	Budget plan (amounts for PROCUREMENT actions programmed)			Obligations		
	1986 actual	1987 est	1988 est	1986 actual	1987 est	1988 est
Program by activities:						
Direct procurement:						
0 0101				42,151		
0 0201				125,356		
0 0301				35,356		
0 0401				51,100		
0 0501				37,986		
0 0601				18,815		
0 0701				35,173		
3 9101				405,919		
1 0101				2,060		
3 0001				407,979		
Financing						
Offsetting collections from:						
1 0001				19,315		
3 0001				3,700		
4 0001				17		
7 0001				-8,493		
Recovery of prior year obligations						
1 4002				-537,459		
1 4003				-75,790		
1 4004				75,790		
2 4001				-114,941		
2 4002				72,076		
3 4002				28,786		
5 0001				89,865		
1 0001				Budget authority		



05 Jan 87

Other Procurement, Navy  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1986

Identification code	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations	
	1986 actual	1987 est.	1988 est.	1989 est.	1988 actual	1989 est.
Program by activities:						
Direct program:						
0 101	816,614	172,201	612,154	170,201	25,169	25,169
0 201	1,831,985	502,893	1,033,284	502,893	295,828	295,828
0 301	1,044,608	251,811	707,071	251,811	85,926	85,926
0 401	1,152,565	206,719	836,329	206,719	109,517	109,517
0 501	255,242	31,346	164,993	31,346	21,303	21,303
0 601	516,768	28,645	286,942	21,436	4,961	4,961
0 701	233,075	141,379	141,379	180,270	45,732	45,732
0 801	5,868,449	1,465,212	3,814,801	1,465,212	588,436	588,436
0 9101	18,231			18,231		
1 0101	5,886,680		3,814,801	1,483,443	588,436	588,436
0 0001						
Financing:						
Offsetting collections from:						
1 0001	-12,280		-12,280			
3 0001	-4,277		-4,277			
3 0001	-1,664		-1,664			
1 4001						
1 4002						
1 4003						
2 4001						
3 4001						
4 4002						
4 4003						
9 0001						
Budget authority:						
0 0001	6,081,631		6,081,631			
1 0001	-6,000		-6,000			
2 0001	26,387		26,387			
3 0001	6,102,018		6,102,018			
Appropriation (adjusted):						
0 0001	6,081,631		6,081,631			
1 0001	-6,000		-6,000			
2 0001	26,387		26,387			
3 0001	6,102,018		6,102,018			

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Other Procurement, Navy  
Program and Financing (in thousands of dollars) FISCAL YEAR 1987

Identification Code	Budget Plan (amounts for PROCUREMENT actions programmed)				Obligations	
	1986 actual	1987 est.	1988 est.	1989 est.	1986 est.	1989 est.
Program by activities:						
Direct program:						
3 0101	1,028,579	1,028,579	823,085	109,991	95,503	
3 0201	1,996,390	1,996,390	1,453,623	332,592	210,175	
3 0301	788,366	788,366	613,774	93,760	80,832	
3 0401	1,744,895	1,744,895	812,566	181,592	170,727	
3 0501	269,971	269,971	127,359	57,383	1,342	
3 0601	502,478	502,478	376,858	98,154	27,466	
3 0701	289,858	289,858	246,379	43,479		
3 9101	6,021,671	6,021,671	4,510,003	907,001	604,667	
1 0101	25,000	25,000				
0 0001	6,046,671	6,046,671	4,535,003	907,001	604,667	
Total						
Financing:						
Offsetting collections from:						
1 0001	-17,500	-17,500				
1 0001	-5,000	-5,000				
4 0001	-2,500	-2,500				
Unobligated balance available, start of year:						
1 4002					-1,511,668	-604,667
Unobligated balance available, end of year:						
4 4002	12,400	12,400	1,511,668	604,667		
5 0001						
9 0001	6,034,071	6,034,071				
Budget authority:						
0 0001	6,033,371	6,033,371				
1 0001	-26,600	-26,600				
2 0001	14,900	14,900				
3 0001	6,021,671	6,021,671				
0 0001	12,400	12,400				

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Other Procurement, Navy  
 Program and Financing (in thousands of dollars) FISCAL YEAR 1988

Identification Code	Budget Plan (amounts for PROCUREMENT actions program)				Obligations			
	1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1987 est.	1988 est.	1989 est.
Program by activities:								
0 0101		783,716					676,804	126,899
0 0201		1,692,632					1,252,060	242,438
0 0301		769,542					518,014	83,228
0 0401		116,800					575,517	144,861
0 0501		172,005					77,397	17,607
0 0601		477,771					60,398	6,246
0 0701		308,826					358,509	71,846
0 0801							261,509	46,374
0 9101		4,983,827					3,731,620	751,324
1 0101		25,000					25,000	
J 0001		5,008,827					3,756,620	751,324
Financing:								
1 0001			17,500				-17,500	
3 0001			5,000				-5,000	
4 0001			2,500				-2,500	
1 4002								-1,252,207
4 4002							1,252,207	500,883
40 0001			4,983,827				4,983,827	

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Other Procurement, Navy  
 Program and Financing (in thousands of dollars) FISCAL YEAR 1989

Identification Code	Budget plan (amounts for procurement actions programmed)				Obligations	
	1986 actual	1987 est.	1988 est.	1989 est.	1986 actual	1989 est.
Program by activities:						
Direct program:						
0 0101				941,566		753,257
0 0201				2,279,338		1,602,361
0 0401				1,379,832		850,000
0 0501				1,156,812		1,099,675
0 0601				196,534		89,402
0 0701				560,562		95,520
0 0801				330,091		458,662
0 9101				6,577,530		280,577
-1 0101				25,000		25,000
0 0001				6,602,530		4,951,898
Financing:						
Offsetting collections from:						
1 0001				-17,500		-17,500
2 0001				-5,000		-5,000
4 0001				-2,300		-2,300
4 4002						1,650,632
-0 0001				6,577,530		6,577,530

BUDGET ACTIVITY 1: SHIP SUPPORT EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

BUDGET PLAN					
(Amounts For Procurement Actions Programmed)					
	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	JUSTIFICATION PAGE
SHIP PROPULSION EQUIPMENT	32,685	52,774	36,262	42,020	11
GENERATORS AND PUMPS	18,034	42,058	13,523	15,737	12
AIR COMPRESSORS	3,157	7,995	3,484	1,938	12
PROPELLERS	12,616	11,196	12,439	10,201	12
NAVIGATION EQUIPMENT	51,013	45,601	24,717	14,005	13
UNDERWAY REPLENISHMENT EQUIPMENT	10,142	2,921	6,132	7,743	13
PERISCOPES	18,787	26,863	10,757	24,952	14
OTHER SHIPBOARD EQUIPMENT:					
SHIP SILENCING	2,457	26,567	10,095	26,133	14
STRATEGIC PLATFORM SUPPORT	49,233	74,587	85,297	86,068	15
DEEP SUBMERGENCE	9,753	9,673	7,879	8,648	15
SHIP SUPPORT IMPROVEMENT	13,977	25,614	15,920	15,098	16
MINESWEEPING CABLES	4,987	4,196	737	4,286	16
SAFETY EQUIPMENT	19,482	22,723	24,224	28,132	16
MISCELLANEOUS	109,825	149,034	115,397	125,272	17
REACTOR PLANT EQUIPMENT	371,957	424,906	314,074	397,657	17
OCEAN ENGINEERING	45,190	43,007	48,861	64,912	18
SMALL BOATS	14,053	19,321	17,213	17,649	18
TRAINING EQUIPMENT	26,956	18,385	2,404	18,159	19
PRODUCTION FACILITIES EQUIPMENT	2,310	21,158	34,301	32,956	19
TOTAL BUDGET PLAN	816,614	1,028,579	783,716	941,566	

Budget Activity 1 - Ships Support Equipment

(\$ In Thousands)  
FY 1989 Estimate - \$ 941,566  
FY 1988 Estimate - \$ 783,716  
FY 1987 Estimate - \$1,028,579  
FY 1986 Actual - \$ 816,614

Purpose and Scope of Work

Budget Activity 1 programs include Shipboard Components, Reactor Cores and Reactor Plant Components, support of the Deep Submergence, TRIDENT and Small Boat procurement programs, and procurement of Production Facilities and Training equipment.

Shipboard components, as well as nuclear components and small boats, are procured for direct support or installation on Active Fleet ships as part of a planned maintenance replacement program or as part of an improvement program. These components are also procured to fill authorized stock requirements. Funding for the Deep Submergence program is aimed at expanding the Navy's capability to live, work, explore, and perform rescue missions in deep ocean areas.

Ship Propulsion Equipment (P-1 Line Items 1-5)

(\$ In Thousands)  
FY 1988                      FY 1989  
\$36,262                      \$42,020

These funds will provide for the procurement of equipment designed to improve the reliability, maintainability, fuel efficiency, power output, and durability of the LM 2500 Gas Turbine Engines. The LM 2500 engines were introduced into the Fleet through the DD-963 and FFG-7 Class construction programs and the Allison 501K Gas Turbine engine was introduced into the Fleet through the DD-963, DDG-993, and DD-997 Class ships. These improvements will be accomplished through procurement of modifications identified as a result of the Component Improvement Program. Existing 1200 and 600 PSI Steam Plants require sufficient funds to modify and improve reliability through the procurement of fuel oil strainers, lube oil mods, boiler conductivity monitoring systems, stack gas analyzers, and lube oil strainers. Funds requested will also procure ME831-800 gas turbines, fin stabilizer mods, support for LCAC gas turbines, support for marine diesel engines, clutch retrofit for DL-963/993 class ships, and a depot modernization program for SSN 688 class.

Generators and Pumps (P-1 Line Items 6-7)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$13,523	\$15,737

Funding requested for these programs will provide for continuation of programs to replace obsolete, unportable, underpowered, and unreliable generators and pumps of various capacities and sizes. These programs also procure equipment to support programmed SHIPALTS. Types of equipment procured include a 500KW ship service motor for SSM 688's, arcing fault detector for SSM and SSBN overhauls; 1500KW emergency diesel generator for LPH-2 class; 60/400 HZ motor generator sets for CG, CGN and DDG class overhauls, diesel ship service power units for PHMs, depot maintenance equipment for SSM 688 class, air conditioning, chill water pumps; trim and drain pumps for SSM's and SSBN's, fire pumps/ends/motors for CVs/CVNs and DDG-37 class, and pumps for the auxiliary/amphibious ship maintenance strategy program, the surface ship advanced equipment repair program, and the depot modernization program for SSM-688 class.

Air Compressors (P-1 Line Items 8-9)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$3,484	\$1,938

These funds will provide for the procurement of greater capacity and more reliable high pressure air compressors than those currently installed in the Active Fleet. Oil-free 20 Cubic feet/hour (CFH) air compressors are needed to support combat weapon systems on combatants. Also being procured are 30 Cubic feet/hour air compressors which are essential to the operation of liquid Oxygen Generating Plants on aircraft carriers in direct support of aircraft, 20 cubic feet/hour air compressors for the surface ship advanced equipment repair program, low-pressure blowers for SSM-637 class, and equipment for the SSM-688 depot modernization program.

Propellers (P-1 Line Items 10-11)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$12,439	\$10,201

The requested funding will provide for the procurement of propellers to reduce the noise signature on FBM and attack submarines and as replacements for those propellers currently installed as casualties occur. Funds are also required for replacement of blades, shafts, and hubs in support of active fleet ships as damage or failure occurs, as well as for support inventories for the newer classes of ships such as FFG-7s, DD 963/993s, CG-47s and the AO-177s.

Navigation Equipment (P-1 Line Items 12-14)

	(\$ In Thousands)
<u>FY 1988</u>	<u>FY 1989</u>
\$24,717	\$14,005

These funds will procure Electrically Suspended Gyro Navigators (ESGN) which are programmed as replacements for the MK-3 Ships Inertial Navigation System (SINS) on SSN-637 Class and SSNs 671 and 685; and as replacements for the Dual Miniature Inertial Navigation System (DMINS) on SSN-688 Class ships. The improvement over the MK-3 SINS is in reliability, maintainability, availability and performance. The improvement over DMINS is in performance. Funds are also budgeted for the CV/CVN navigation system which will replace the MK-3 SINS system. This system will provide for improvements in reliability, maintainability, and availability. Funds are also budgeted for maintenance items and newly developed improvements such as the AN/WSN-5 Inertial Navigation Sets for CG/CGN/DDG Class ships, the AN/SSQ-87(V) Hydrofoil Collision Avoidance and Tracking System for PHMs, and the Doppler Sonar Velocity Log for SSN's and SSBN's. These improvements provide more precise fire control computation and improved accuracy in support of sophisticated missile systems and for safety of PHMs.

Underway Replenishment Equipment (P-1 Line Item 15)

	(\$ In Thousands)
<u>FY 1988</u>	<u>FY 1989</u>
\$6,132	\$7,743

The equipment procured under this program is required to provide the Active Fleet with new or improved underway replenishment-at-sea capability. This equipment is used to transfer fuel, cargo, ammunition, and missiles by both alongside and vertical replenishment techniques. The equipment being procured supports the following objectives: personnel/equipment safety, reduction in maintenance costs, and reduction in alongside time, to minimize ship vulnerability to enemy action. Major equipment includes ram tensioners, air flasks, vertical conveyors, saddle winches, and elevator controllers.

Periscopes (P-1 Line Items 16-18)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$10,757	\$24,952

These funds will provide for the procurement of Type 18 periscope related material and other periscopes and accessories. The Type 18 periscope equipment includes eyepiece boxes and masts which are required to establish an inventory of these parts based on actual/predicted failure rates and turn around times and automatic direction finding modifications. Funds are required to procure a Submarine Satellite Information Exchange reception capability on Type 18 periscopes. Type 18 periscope systems will also be procured to establish a rotatable pool of ready-for-issue assets in support of the depot modernization program for SSN 688 class submarines. Field change kits are being procured to implement approved changes on previously procured Type 18 periscopes. Equipment to provide additional shore/tender based components for other type periscopes is also required to ensure that an issuable periscope is always available as a replacement for damaged units on SSN-594 and 637 Class ships. This requirement is based on past demand experience and repair turn around time. The Type 8 periscope program will enable the modification of Type 8 periscopes to incorporate solid state amplifiers, twelve-channel rotary joints, and improved slip ring assemblies, noise source and sapphire heated head window assemblies. Type 8 Mod 3 periscopes will be procured to replace existing periscopes on SSBM submarines. The improvement over existing equipment is enhanced imaging and communications. Funding will also provide for support and improvement of the Type 2 and 15 series periscopes for all Active Fleet submarines.

Other Shipboard Equipment (Ship Silencing) (P-1 Line Items 22 and 23)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$10,095	\$26,133

The requested funds will provide for the procurement of equipment such as Glass Reinforced Plastic (GRP) Domes, air reducing manifolds, acoustically balanced diffuser pump casings, high pressure brine pump modification kits, main lube oil lined pipe acoustic filters, vent fan modifications and noise/vibration monitor analyzers required to implement the high priority Submarine Silencing program on existing nuclear

submarines and for the acoustic quieting of radiated noise and sonar self-noise for surface ships. The submarine silencing equipment incorporates technology developed under RDT&EN programs for improving detection capability and reducing the detectability of the submarine. The surface ship silencing program will make use of the extensive silencing technology already developed under the Submarine Silencing program. FY 1988 and FY 1989 funding provides for the procurement of Masker Belts for CGs, PRAIRIE masker equipment for CVs, AEs and AOs, Compound Air Maskers for large combatants, and flex hose and line filters for DD's and DDG's.

Other Shipboard Equipment (STRATEGIC PLATFORM SUPPORT) (P-1 Line Item 25)

	(\$ In Thousands)
<u>FY 1988</u>	<u>FY 1989</u>
\$85,297	\$86,068

Funding for this program provides for hull, mechanical, and electrical equipment and tools required to support maintenance tasks for TRIDENT submarines. The equipment is required to support the optempo of FFM submarines and includes funding to develop stock levels for TRIDENT plant equipment and repair (TRIPER) equipments to achieve the required operational availability and to achieve a depot availability period which does not exceed one year; alteration/modification packages for TRIPER equipment to maintain standardization and interchangeability of offsets; long lead material equipment for the advanced equipment replacement program, main shaft seal mating rings, and alteration/modification packages for hull, mechanical and electrical equipment.

Other Shipboard Equipment (Deep Submergence) (P-1 Line item 26)

	(\$ In Thousands)
<u>FY 1988</u>	<u>FY 1989</u>
\$7,879	\$8,648

The requested funds will provide for the procurement of hardware to improve/modify Deep Submergence Vehicles to provide the Navy with the capability to rescue personnel from craft disabled on the ocean floor. It also will improve the capability to perform manned underwater search, inspection and recovery missions.

Other Shipboard Equipment (Ship Support Improvement) (P-1 Line Items 31 and 37)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$15,920	\$15,098

These programs will procure critical, long lead time equipments assemblies and components to support the maintenance-limited frigate classes of ships after delivery; provide for improvement in the material condition of Engineered Operating cycle ships achieve increased operational availability and provide funds to upgrade facilities both ashore and afloat (industrial plant and tenders) in order to improve and expand intermediate level maintenance by the surface forces. Shipboard maintenance will emphasize modular replacement with repairables being returned to Intermediate Maintenance Activities and Depot Overhaul Points for repair or rework and return to stock. Inherent in the Engineering Operating Cycle will be several intervening maintenance availabilities of extremely short duration for performing scheduled alterations and planned overhaul of installed equipment.

Other Shipboard Equipment (Minesweeping Cables) (P-1 Line Item 29)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$737	\$4,286

This program will provide for the procurement of minesweeping cables necessary to counter moored and influence mines. These funds will procure Q-3 and S-3 cables, mine neutralization system vehicles, cables and modification kits, and a complete mine neutralization system in FY 1988 and FY 1989.

Other Shipboard Equipment (Safety Equipment) (P-1 Line Items 19, 33, 35)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$24,224	\$28,132

These funds procure equipment which supports shipboard fire fighting operations, fuel tank inspection, and other activities which can involve the exposure of lungs to noxious substances. Funding will provide the Navy with the latest available safety equipment in order to perform assigned tasks without risking

personal injury, provide for the protection of personnel from exposure to nuclear weapons radiation and provide ships of the active fleet with the capability to detect chemical warfare agents before ship contamination occurs. FY 1988 and FY 1989 funding will provide Halon 1301 Fire Fighting systems to complement the existing Aqueous Film Forming Foam/Purple K Dry Chemical Powder hose reel systems in machinery spaces as well as procurement of this system in a mobile/portable form and Oxygen-Breathing Apparatus Voice Amplifiers to improve communications between fire fighting team members, shielding which will be affixed to bulkheads and to cradles containing the individual weapons on CVs, SSN-688 Class, Non-FBM ASs and at shore facilities, and chemical warfare directional detectors and chemical agent point detector systems.

Other Shipboard Equipment (Miscellaneous) (P-1 Line Items 20, 21, 24, 27, 28, 30, 32, 34, 36 and 38)

	(\$ In Thousands)
FY 1988	FY 1989
\$115,397	\$125,272

These funds provide for the procurement of Combat System Command and Control Switchboards, equipment which will enable the Navy to comply with Federal law and DOD environmental pollution control regulations, replacement batteries for all active submersible craft/submarines, procurement and positioning of special equipment for merchant ships to provide them with the capability to perform Naval auxiliary roles, provision of specialized equipment to assure reliable repair of electronic modules at selected shore, surface and subsurface fleet activities, acquisition of energy conservation systems, equipment and modifications developed through the Chief of Naval Operation's Energy Research and Development program for installation aboard ships in the Fleet; the Gas Management System for installation on board submarines which will enhance safety and reduce the submarines vulnerability to detection; and modifications/replacements for all equipment which costs less than \$2,000,000 by category.

Reactor Plant Equipment (P-1 Line Items 39 and 40)

	(\$ In Thousands)
FY 1988	FY 1989
\$314,074	\$397,657

The FY 1988 and 1989 requests provide for the procurement of replacement reactor cores, power units, and other reactor plant components and equipment. Replacement cores and power units are the assemblies of nuclear fuel and necessary associated structural and reactivity control equipment required for the periodic

refueling of nuclear powered ships. The procurement of these units is accomplished by the Department of Energy (DOE). The DOE has developed production lines within the civilian nuclear industry to fabricate these units. The funds requested are required to meet the refueling needs of the Navy in a manner most efficient to the government as recommended by the DOE. The reactor component line item includes the components, equipment, and material required to provide minimum support needed for the continued safe and reliable operations of naval nuclear propulsion plants. Funds are programmed for acquisition of replacement components for ship alterations and specialized equipment necessary for refueling of nuclear powered ships.

Ocean Engineering (P-1 Line Items 41-42)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$48,861	\$64,912

These programs provide for the procurement of equipment to support safety requirements at the existing depth capabilities and mission duration restrictions imposed on the working diver, equipment to improve the Navy's diving capabilities and maintain sufficient levels of critical salvage items, and improved equipment developed as part of Swimmer Support Systems for Underwater Demolition Teams, SEAL Teams and Inshore Undersea Warfare Groups. FY 1988 and FY 1989 funds will procure the MK14 Push Pull System and the Deep Tool System, Ready on Pier Emergency Repair diving cart, diving boats; hardware which will increase the U.S. Navy operational surface supported maximum diving depth from 300 to 450 feet and salvage equipment such as hydraulic pullers, stato anchors, puller beach gearlegs, and synthetic line, MK-VIII Swimmer delivery vehicle, deck shelters, SEAL team outfitting, laser target designator, reserve equipment, and underwater breathing apparatus.

Small Boats (P-1 Line Items 43)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$17,213	\$17,649

Standard boats procured with these funds will be used to fill new or revised allowances, to replace obsolete wooden boats now in service, and to replace boats of fiberglass or steel construction which are beyond economical repair. Types of boats to be procured with these funds include the 26' Motor Whaleboat, 14' Punt, 35' and 50' Workboat, 24' Explosive Ordnance Disposal (EOD) Craft, and 58' EOD Support Craft.

Training Equipment (P-1 Line Item 44 and 45)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$2,404	\$18,159

This program provides equipment for the support of initial training requirements developed through the Navy Training Plan process and sustaining training requirements developed by the Chief of Naval Education and Training. This funding will also procure equipment for the construction of a CG-47/DD 963 gas turbine operational facility.

Production Facilities Equipment (P-1 Line Items 46, 47 and 48)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$34,301	\$32,956

These programs provide for the procurement of replacement cranes for the floating dry dock at Norfolk Naval Shipyard, funding required for industrial plant equipment and other shop equipment necessary to support Navy managed facilities; machine tools, industrial plant equipment and other plant equipment necessary to support the Fleet Operations Program and calibration equipment for the intermediate and organizational maintenance levels.

BUDGET ACTIVITY 2: COMMUNICATIONS AND ELECTRONIC EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

BUDGET PLAN  
(Amounts For Procurement Actions Programmed)

	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	JUSTIFICATION PAGE
SHIP RADARS	146,073	134,869	147,539	164,619	21
SHIP SONARS (SURFACE SHIPS)	41,842	82,326	171,613	245,735	22
SHIP SONARS (SUBMARINES)	124,680	98,216	35,867	107,261	22
SHIP SONARS (GENERAL SUPPORT)	37,604	45,118	35,573	37,018	23
ANTI-SUBMARINE WARFARE ELECTRONICS (SURFACE SHIPS)	184,825	167,146	34,451	33,296	23
ANTI-SUBMARINE WARFARE ELECTRONICS (SUBMARINE)	9,286	69,222	72,440	128,736	24
ANTI-SUBMARINE WARFARE ELECTRONICS (AVIATION)	52,199	39,606	20,853	35,496	24
ANTI-SUBMARINE WARFARE ELECTRONICS (SURVEILLANCE)	93,709	101,622	72,669	52,789	25
ELECTRONIC WARFARE EQUIPMENT	146,744	174,371	129,732	205,458	25
RECONNAISSANCE EQUIPMENT	74,844	76,243	100,056	121,794	26
SUBMARINE SURVEILLANCE EQUIPMENT	13,502	26,127	38,350	38,559	26
OTHER SHIPBOARD ELECTRONIC EQUIPMENT	342,926	324,710	212,571	303,429	27
TRAINING EQUIPMENT	3,698	4,971	2,899	444	28
AVIATION ELECTRONIC EQUIPMENT	56,174	106,364	123,289	85,453	28
OTHER SHORE ELECTRONIC EQUIPMENT (COMM & CONTR)	35,669	48,835	28,166	42,283	29
OTHER SHORE ELECTRONIC EQUIPMENT (MISCELLANEOUS)	67,531	71,888	150,070	272,497	30
SHIPBOARD COMMUNICATIONS	54,091	60,268	36,426	31,839	30
SUBMARINE COMMUNICATIONS	49,518	86,692	16,448	60,693	31
SATELLITE COMMUNICATIONS	64,754	31,008	36,122	51,547	32
SHORE COMMUNICATIONS	70,565	61,761	34,945	39,387	32
CRYPTOGRAPHIC EQUIPMENT	138,383	165,813	197,627	199,749	33
CRYPTOLOGIC EQUIPMENT	17,589	11,855	12,092	18,307	34
OTHER ELECTRONIC SUPPORT	5,779	7,359	2,837	2,950	34

TOTAL BUDGET PLAN 1,831,985 1,996,390 1,712,635 2,279,339

BUDGET ACTIVITY 2: COMMUNICATIONS AND ELECTRONIC EQUIPMENT

(\$ In Thousands)  
FY 1989 Estimate - \$2,279,339  
FY 1988 Estimate - \$1,712,635  
FY 1987 Estimate - \$1,996,390  
FY 1986 Actual - \$1,831,985

Purpose and Scope of Work

Budget Activity 2 programs include the procurement of shipboard and shore communications and electronic equipment for the Active Fleet and training activities. Improved shipboard surface and air search radars are designed to enhance the military capability of combatant ships. Anti-Submarine Warfare Electronics equipment will furnish surface ships, submarines and special shore activities with equipment used for detection, tracking localization and classification of submarines. Special sonars are procured for employment in Fleet Ballistic Missile submarines. Also procured in this activity is equipment which will provide the Fleet with the capability of deceiving, intercepting, and analyzing airborne, electro-magnetic and underwater radiation for the purpose of executing an effective surveillance and intelligence collection capability.

Justification of Funds:

Ship Radars (P-1 Line Items 49 to 55)

(\$ In Thousands)  
FY 1988                      FY 1989  
\$147,539                      \$164,619

These Ship Radar procurements provide the Active Fleet with detection, tracking and identification equipment to meet the challenge of high speed attack capabilities of low-flyers, anti-ship missiles and modern aircraft. Specific radars and radar equipment improvements to be procured include the AN/SPS-67(V) radar (the modernized version of the AN/SPS-10 radar), which is the primary surface search radar in the Fleet (FY 1988 \$7.8 million; FY 1989 \$9.3 million); the AN/SPS-40 radar system improvements which are designed to increase detection capability in hostile, cluttered, or low-flyer threat environments through improved system availability and automation techniques (FY 1988 \$26.1 million; FY 1989 \$18.3 million); the AN/SPS-48 radar, a three-coordinate air search radar which has a primary function of providing target position data to a weapon system (FY 1988 \$47.7 million; FY 1989 \$56.9 million); the AN/SPS-49 radar, a narrow beamed, very long-range two dimensional, air search radar (FY 1988 \$18.2 million; FY 1989 \$18.0 million); the Integrated Automatic Detection and Tracking System (AN/SYS-(( )) which provides the capability to correlate contact data from up to three radars, determine target tracks, and provide a single target output to the ship's command and decision system automatically (FY 1988 \$8.7 million;

FY 1989 \$14.2 million); and the MK-23 Target Acquisition System, a rapid reaction, fully automatic, electronic counter-counter-measure capable radar system developed as the target acquisition system for the Improved Point Defense Surface Missile System (FY 1988 \$26.3 million; FY 1989 \$23.0 million). This request also includes funding for procurement of various radar support items (FY 1988 \$12.7 million; FY 1989 \$25.0 million).

Ship Sonars (Surface Ships) (P-1 Line Items 56 to 59 and 62)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$171,613	\$245,735

Funds requested for Surface Ship Sonars include \$10.9 million in FY 1988 and \$12.6 million in FY 1989 for procurement of AN/SQS-26/53/53a sonar improvements. \$154.6 million in FY 1988 and \$220.7 million in FY 1989 provide for procurement of the AN/SQQ-89 Surface ASW Combat system. Beginning with FY 1988, the AN/SQQ-89 Surface ASW Combat System will be procured as an integrated system and includes funding previously budgeted as separate units. The line items consolidated into this new line item are the AN/SQS-53B/C, AN/SQS-19, MK 116 FCS and the receivers and on-board processors previously budgeted in LAMPS MK III. \$6.1 million budgeted in FY 1988 and the \$12.4 million budgeted in FY 1989 provide for the procurement of emergency replacement windows and domes for the AN/SQS-26/53, AN/SQQ-23, AN/SQS-56 and AN/SQS-38 sonar systems.

Ship Sonars (Submarines) (P-1 Line Items 60, 61 and 65)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$35,867	\$107,261

These funds provide for continued procurement of AN/BQQ-5 modification kits required to upgrade previously procured and installed AN/BQQ-5 systems onboard SSN-637 and SSN 688 class submarines and maintenance trainers (FY 1988 \$25.9 million; FY 1989 \$91.3 million). Beginning in FY 1987, a competitive (one year with two one-year options) procurement of TB-16 arrays was awarded for ten units, with an additional 35 units planned for subsequent procurement (FY 1988 \$5.7 million; FY 1989 \$8.8 million). These funds also provide for procurement of AN/BQR-23 Improved Processors and Memory, AN/BQR-15 array modification shipalts, AN/BQQ-9 systems and various other alterations for installation on SSBN class submarines (FY 1988 \$4.3 million; FY 1989 \$7.2 million).

Ship Sonars (General Support) (P-1 Line Items 63 and 64)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$35,573	\$37,018

These funds procure upgrade equipment for the Transducer Repair Facilities, including Towed Line Array (TLA) plant equipment for the TB-16, AN/SQS-18A(V)1, AN/SQR-18A(V)2, and engineering changes for the AN/BQS-14 including the upgrade of the Forward Look (FLU) portion of this sonar, and AN/BQS-15 (FY 1988 \$5.2 million; FY 1989 \$6.8 million). This request also includes resources to continue procurement of TR-317 transducers for the AN/BQS-11/12/13 and AN/BQQ-5 sonars for use on SSN-594, SSN-637 and SSN-688 class submarines; new TR-313 transducers for the AN/SQS-26 Sonar; and Electronic Scanning Switches required to support replacement of unreliable mechanical switches with electronic switches on both surface ships and submarines (FY 1988 \$30.4 million; FY 1989 \$30.3 million).

Anti-Submarine Warfare Electronics (Surface Ships) (P-1 Line Item 67 and 71-74)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$34,451	\$33,296

This funding provides for the procurement and support of major ASW electronics systems for installation on deploying ships and those in the Naval Reserve Force. This request includes procurement of AN/SLQ-25 (NIXIE) engineering field change kits in FY 1988 and FY 1989, (FY 1988 \$10.0 million; FY 1989 \$8.0 million); AN/SQR-17 performance improvements and AN/SKR-4 Data Link Modifications required to receive the new DIFAR/DICASS sonobuoy frequencies (FY 1988 \$12.8 million; FY 1989 \$10.2 million); improvements to increase the service life of the AN/SQR-15 Towed Array System (FY 1988 \$.7 million; FY 1989 \$.9 million); and procurement of kits to upgrade the AN/SQR-18A systems to the AN/SQR-18A(V)1 configuration and continued procurement in FY 1988 and FY 1989 of the AN/SQR-18(V)2 critical angle tow systems which employ the AN/SQR-19 hoist for installation on non-variable depth sonar ships (FY 1988 \$10.9 million; FY 1989 \$14.2 million).

Anti-Submarine Warfare Electronics (Submarine) (P-1 Line Items 66, 68 and 69)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$72,440	\$128,736

The request includes \$29.3 million in FY 1988 and \$27.6 million in FY 1989 for Submarine Acoustic Warfare Systems (SAWS) which will provide an enhanced survival capability for submarines to use against enemy torpedoes and a means to reduce the effectiveness of enemy sensors. These funds also provide for procurement of AN/FLR-14/BQR-15 Interface Engineering Changes, procurement of the Acoustic Device Countermeasure (ADC) MK-1, MK 2 NAE Beacons (MK3), AN/BQH-7 engineering changes and expendable probes, AN/WLR-9/12 engineering changes and, commencing in FY 1988, the Countermeasure Set Acoustic (CSA) Mk 2 MOD 0 for SSBNs and CSA MK MOD 1 for SSN-637 class submarines, AIR display engineering changes, ADC MK 3, associated SHIPALTS/ECPS and production support. \$42.8 million budgeted in FY 1988 and \$100.7 million budgeted in FY 1989 provide for the procurement of team trainers, Intermediate Maintenance Activities (IMAs) equipment and module screening and repair activities equipment to support the AN/BSY-1 Combat Control and Acoustic Set. In addition, \$.4 million in FY 1988 and \$.4 million in FY 1989 is requested for the Acoustic Communications system, a multi-phase program which provides improved tactical acoustic communications systems for the three primary Anti-Submarine Warfare platforms (aircraft, surface ships, and submarines).

Anti-Submarine Warfare Electronics (Aviation)(P-1 Line Items 76 and 77)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$20,853	\$35,496

These funds will procure reliability and operability improvements to tactical ADP equipment and will provide for continued production of UYQ-21 displays in FY 1988 and FY 1989 as well as continued procurement of improvements to the Acoustic Analysis subsystem and UYQ-21 displays. All of these are components of the Carrier ASW Module of the Carrier Combat Direction System (FY 1988 \$17.0 million; FY 1989 \$9.6 million). The request also includes resources to support procurement of various equipments which support the ASW Operations Center (ASWOC) which is the land based terminus for ASW area commanders in the overall Navy Command Control System (NCCS). (FY 1988 \$3.9 million; FY 1989 \$25.9 million).

Anti-Submarine Warfare Electronics (Surveillance) (P-1 Line Items 70 and 75)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$72,669	52,789

These funds will support both the Sound Surveillance System (SOSUS) and the Surveillance Towed Array Sensor (SURTASS) programs. Specific items to be procured in SOSUS include ship improvement equipment, cable replacement and engineering, trainer hardware and configuration changes, searchlight processing, cable and shore electronics, (FY 1988 \$54.3 million; FY 1989 \$34.7 million). The funds requested in FY 1988 for SURTASS will procure one shore electronic unit, two back-up arrays, two high ambient array kits and field changes and modifications. The FY 1989 funds requested will procure two high ambient array kits, field changes and modifications, and equipment for a second trainer (\$18.3 million in FY 1988; \$18.1 million in FY 1989).

Electronic Warfare Equipment (P-1 Line Items 78-86)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$129,732	\$205,458

The FY 1988 and FY 1989 Electronic Warfare procurement provides the Fleet with systems that have the capability of detecting overt electromagnetic emissions through passive means. Specific systems to be procured include the AN/SLQ-32, a family of modular shipborne electronic warfare equipments to be installed in most combatants and auxiliaries in the surface Navy. \$75.1 million in FY 1988 will procure three AN/SLQ-32(V)3 systems and Electronic Warfare Improvements as follows: Direction Finding (DF), Accuracy Improvement (Band 1), Electronic Support Measures (ESM) Sensitivity Improvements (Band 1 and 3), Band 3 ESM HAT, Antenna Enclosure Improvements, and Electromagnetic Interference (EMI) Improvements. \$91.7 million in FY 1989 will procure six AN/SLQ-32(V)3 systems, and EW Improvements. The AN/WLR-LH is a tactical ESM receiver for use on-board SSN and CV/CVN class ships. \$5.5 million budgeted in FY 1988 and \$6.1 million budgeted in FY 1989 provide for the procurement of field change kits, depot upgrades, engineering change proposals, and direction finding (DF) Antenna Subsystems for CV/CVN class ships. Fleet Electronic Warfare Support Group (FEWSG) provides a realistic air, surface, and subsurface threat environment for Fleet Training and support of Operational Test and Evaluation of Electronic Systems. \$3.4 million budgeted in FY 1988 and \$4.0 million budgeted in FY 1989 provides for the procurement of simulators for AN/ULQ-13(V) vans and AN/ULQ-18(V) threat simulators. \$4.8 million budgeted in FY 1989 provides for the modernization of the AN/SSQ-74 vans. \$27.0 million budgeted in FY 1988 and \$22.2 million budgeted in FY 1989 are for procurement of Scenario Generators, High Frequency (HF) Communications Simulators, RADAR Jammer II Buoys, and E/F Band Simulators. \$4.9 million budgeted in FY 1988 and \$4.8 million budgeted in FY 1989 are for procurement of AN/ULQ-16 Video Processors and Reprogrammable Library terminals/processors/printers.

\$7.4 million budgeted in FY 1988 and \$64.1 million budgeted in FY 1989 are for procurement of Chaff Buoys, Active Electronic Buoys (AEB), and DLF-1/2 buoys. The AN/WLR-8(V)2 is a tactical Electronic Warfare Support Measures receiver for the SSN 688 class submarines providing intercept, surveillance and signal parameter analysis of the electromagnetic signals for threat warning. \$6.3 million budgeted in FY 1988 and \$7.9 million budgeted in FY 1989 provide for the procurement of field change kits.

Reconnaissance Equipment (P-1 Line Items 87-91)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$100,056	\$121,794

This funding will provide the tactical capability to detect, locate and identify hostile targets at long range and to input this information into the ship's Tactical Data System. \$27.8 million budgeted in FY 1988 and \$21.2 million budgeted in FY 1989 are for continued procurement of OUTBOARD Phase I and OUTBOARD Phase II suites. \$52.7 million budgeted in FY 1988 and \$44.0 million budgeted in FY 1989 are for procurement of Combat Direction Finding Systems. \$9.5 million budgeted in FY 1988 and \$5.9 million budgeted in FY 1989 are for procurement of Combat Cryptologic Support Consoles (CCSC). \$10.1 million budgeted in FY 1988 and \$10.8 million in FY 1989 are for procurement of equipment for intelligence centers for the Aircraft Carriers (CV) and Fleet Imagery Support Terminals (FIST). \$39.9 million budgeted in FY 1989 is for initial procurement of the shipboard terminals for the Battle Group Passive Horizon Extension System.

Submarine Surveillance Equipment (P-1 Line Items 92-95)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$38,350	\$38,559

The funding requested provides for special equipment in support of submarine surveillance operations. \$9.9 million budgeted in FY 1988 and \$7 million budgeted in FY 1989 are for procurement of automatic test equipment, repair test stations, and test program sets for the AN/WLQ-4(V) system level overhaul depot facility. \$18.8 million budgeted in FY 1988 and \$32.7 million budgeted in FY 1989 are for procurement of modifications to the existing AN/WLQ-4(V) installed on the SSN-637 Class submarines and five Mini-N-Suite signal intelligence augmentation modification kits, both installed on the SSN-637 Class submarines and five Mini-N-Suite signal intelligence augmentation modification kits, both installed on the SSN-637 class submarines. \$6.7 million budgeted in FY 1988 and \$2.4 million budgeted in FY 1989 are for procurement of six AN/BLD-1 direction finding systems and support which will provide improved performance on SSN-688 Class submarines against long range

targets. \$2.9 million budgeted in FY 1988 and \$2.7 million in FY 1989 are for the procurement of unique equipments that are maintained in limited quantities at Submarine Surveillance Equipment Program Support Facilities for use on board nuclear attack submarines as well as for procurement of improved power supplies for AN/WLR-8(V)2 systems.

Other Shipboard Electronic Equipment (P-1 Line Items 96-104)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$212,571	\$303,429

\$93.2 million budgeted in FY 1988 and \$117.5 million budgeted in FY 1989 provides for procurement of improvements to the Navy Tactical Data System (NTDS) which permits major warships rapid integration of ship sensor information, analysis and display of tactical information and designation of weapon systems to force threats. \$77.7 million budgeted in FY 1988 and \$143.2 million budgeted in FY 1989 are for electronic equipment for the TRIDENT Training Facility (TRITRAFAC) and the TRIDENT Refit Facility (TRIREFFAC). \$3.3 million budgeted in FY 1988 and \$1.3 million budgeted in FY 1989 are for procurement of 119 state-of-the-art OMEGA receiving sets (LTN-211). This request also includes resources to support procurement of equipment for the Armed Forces Radio and Television Service (AFRTS) which operates radio and television outlets for the shipboard information training and entertainment of United States servicemen and their dependents at sea or on shore (FY 1988 \$5.3 million; FY 1989 \$7.5 million). \$4.9 million budgeted in FY 1988 and \$6.5 million budgeted in FY 1989 are for procurement of mine hunting sonars for Minesweeping Boats (MSBs), route survey sonars for Oceaongoing Minesweepers (MSOs), and precise navigation equipment. \$13.2 million budgeted in FY 1988 and \$19.4 million budgeted in FY 1989 are for procurement of shipboard and manpack receiver equipment for the NAVSTAR Global Positioning System (GPS), a joint service program which will provide a continuous, world-wide three-dimensional positioning/navigation capability to the operational forces. \$1.9 million budgeted in FY 1988 and \$2.5 million budgeted in FY 1989 are for procurement of the AN/USQ-74 which is, a Link II Data Terminal Set. \$13.0 million budgeted in FY 1988 and \$5.4 million budgeted in FY 1989 are for procurement of three Tactical Flag Command Centers (TFCC) (two in FY 1988 and one in FY 1989) which support the tactical commander by receiving and displaying information relative to the current tactical situation.

Training Equipment (P-1 Line Items 105 and 106)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$2,899	\$444

The FY 1988 and FY 1989 requests are for procurement of equipment to satisfy initial training requirements developed through the Navy Training Plan process which will give the Navy the capability to train officer, operator and maintenance personnel on new or significantly modified equipment for which no navy training is currently available. It also satisfies requirements to expand the Navy training capability on existing equipment to meet heavier needs for trained personnel in the Fleet (FY 1988 \$2.9 million; FY 1989 \$.4 million).

Aviation Electronic Equipment (P-1 Line Items 107-115)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$123,289	\$85,453

The FY 1988 and FY 1989 request for Aviation Electronic Equipment provides for procurement of electronic equipment to support Naval and Marine aviation shore activities, shipboard aircraft control equipment and secure identification systems. The Marine Air Traffic Control and Landing System (MATCALIS) will provide a fully automatic air traffic control and landing system. \$22.8 million budgeted in FY 1988 and \$12.1 million budgeted in FY 1989 are for the procurement of five and two air traffic control subsystems, respectively. The Shipboard Air Traffic Control (SATC) program will improve air traffic control operations in the Fleet. SATC funding includes \$10.6 million in FY 1988 and \$16.0 million budgeted in FY 1989 for procurement of five AN/SPN-43 solid-state radar field changes, 25 AN/UYK-44 computers to replace AN/UYK-20s in the Carrier Air Traffic Control Centers-Direct Altitude Identification Readout (CATCC-DAIR), one AN/SPN-43 ( ), and three Amphibious Air Traffic Control (AATC-DAIR) systems for LPHs and LHAs. \$15.6 million budgeted in FY 1988 and \$17.6 million budgeted in FY 1989 are for procurement of four AN/SPN-46 systems to replace the aging AN/SPN-42A Automatic Carrier Landing Systems, and AN/SPN-35 and AN/SPN-41 improvements and an AN/SPN-42/46 Software Support System. \$4.8 million budgeted in FY 1988 and \$3.7 million budgeted in FY 1989 are for procurement of Tactical Air Navigation (TACAN) equipment for Navy ships. Procurement of 20 OE-273(V) URN antennas and 42 AN/URN-25 Beacon transmitters in fiscal years 1988 and 1989 will reduce current shortages of this vital, short-range navigation equipment. \$12.9 million budgeted in FY 1988 and \$14.2 million budgeted in FY 1989 are for procurement of various equipments to improve the MK XII Identification Friend or Foe air traffic control radar system used as a secure identification system on all major combatant ships, selected auxiliaries, patrol craft and selected Coast Guard ships. Major items planned for procurement include 265 AN/UPM MK XII test sets, 41 CM-491/UPX Mode IV Evaluators, 81 SN-501

Pulse Generators, and various MK XII AIMS improvements to insure that all systems are properly interfaced and capable of optimal operation. The Air Station Support Equipment program addresses air traffic control requirements and enhances flight safety at Navy and Marine Corps Air Stations. The budget request includes \$7.6 million in FY 1988 and \$9.8 million in FY 1989 for Fiber Optic Cable systems, 75 multichannel recorder replacements, 50 AN/UPM-137A test set replacements, six AN/TPN-30 Radar Sets, and various communication system replacements. \$1.2 million budgeted in FY 1988 and \$1.4 million budgeted in FY 1989 are for procurement of Open Planar Array Antennas for 15 operational Radar Air Traffic Control Facilities (RATCF) and for replacement computers at two AN/TPX-42A (V) 10 sites. This equipment is needed to reduce the potential for mid-air/terrain collisions. \$6.3 million budgeted in FY 1988 and \$7.4 million budgeted in FY 1989 are for procurement of 28 Microwave Landing Systems (MLS). The MLS is a joint DOT/DOD/NASA project to create a common civil/military precision landing system which will overcome the limitations of existing landing systems. \$41.4 million budgeted in FY 1988 and \$3.3 million budgeted in FY 1989 are for procurement of Fleet Area Control and Surveillance Facilities (FACSFAC) communication modernizations, FACSFAC Air Control Tracking System (FACTS) modifications, increased hardware/software maintenance capability and upgrade of the Joint Air Reconnaissance Control Center (JARCC).

Other Shore Electronic Equipment (Command and Control) (P-1 Line Items 116-119)

	(\$ In Thousands)
FY 1988	FY 1989
\$28,166	\$42,283

These funds will procure electronic equipment for replacement of obsolete equipment of the Navy Space Surveillance System, and unalerted real-time detection of non-radiating satellites and other objects which pass through multistatic continuous wave radar beams (FY 1988 \$9.0 million; FY 1989 \$11.4 million). This request includes resources to support the Space System Processing System, procurement of special computer hardware and software necessary to improve information processing and generation of highly classified reports for use by Operational Navy Commands (FY 1988 \$2.2 million; FY 1989 \$2.0 million). The Navy Command and Control System (NCCS) Ashore program (\$17.1 million in FY 1988 and \$27.4 million in FY 1989) provides for the coordination and integration of shore based command centers and their respective systems; resources will procure baseline command center upgrades, communications hardware, satellite communications equipment, correlation upgrade equipment, replacement equipments, and formatted message origination systems. \$1.5 million budgeted in FY 1989 also provides for procurement of mini computers for vans using upgraded software for the Multiple Unit Link Eleven Test and Operational Training System (MULTOTS), a transportable system to validate Link II interoperability on Tactical Data Systems equipped ships and aircraft.

Other Shore Electronic Equipment (Miscellaneous) (P-1 Line Items 120-127)

(In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
150,070	272,497

The \$7.4 million budgeted in FY 1988 and \$6.2 million budgeted in FY 1989 are for the Radiation Detection Indication and Computation Equipment Program (RADIAC) which procures instruments to detect and measure nuclear and ionizing radiation and convert these measurements into meaningful terms so that Navy personnel can adequately control personnel exposure to those radiations. Funds in the amount of \$19.0 million in FY 1988 and \$29.0 million in FY 1989 are for the procurement of General Purpose Electronic Test Equipment (GPETE) for initial outfitting of new or modified Fleet and shore electronic equipments. Funding of \$5.8 million in FY 1988 and \$5.7 million in FY 1989 is for procurement of equipment required for the Integrated Combat System Test Facility (ICSIF), located at San Diego, California, the only permanent Navy test facility for integrated shipboard combat system certification and continuation of engineering for modification of combat systems in existing ships. Funding of \$7.0 million in FY 1988 and \$7.5 million in FY 1989 is for procurement of a new generation of signal generators and oscillator calibrators capable of calibrating up to 18 GHz to support test equipment for FFG-7 and DD-963 class ships and TRIDENT submarines and up to 40 GHz to support test equipment for SSN-637 and SSN-688 class submarines. Funding of \$8.6 million in FY 1988 and \$12.1 million in FY 1989 is for procurement of emergency field change kits and hardware devices to solve Electromagnetic Interference (EMI) problems in electronic systems and equipments throughout the operating forces. Funding of \$88.1 million in FY 1988 and \$187.4 million in FY 1989 is for procurement of three wide area surveillance systems (Over the Horizon Radars) to provide targeting information to tactical commanders afloat. The FY 1988 and FY 1989 requests also include resources to support procurement of replacements for deteriorating and obsolete management equipment, for facilitization of the AN/UVK-43 and 44 depots and for procurement of AN/UYS-1 and 2 hardware. (FY 1988 \$14.2 million; FY 1989 \$24.5 million).

Shipboard Communications (P-1 Line Items 128-134)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$36,426	\$31,839

Funding in the amount of \$3.8 million budgeted in FY 1988 and \$.9 million budgeted in FY 1989 are for the High Frequency (HF) Shipboard Communications program to update the capabilities of the current HF Communications Systems. FY 1988 and FY 1989 funds will procure AN/URT-23 transmitters, AN/TRQ-35 HF Sounders, the OA-5122/SRC antenna coupler group, and the R1051. Funding of \$6.9 million in FY 1988 and \$3.0 million in FY 1989 is for

procurement of AN/WSC-3 (LOS) radios, and Ultra High Frequency (UHF) transceivers which provide secure tactical voice communications aboard line-of-sight ships. Funds in the amount of \$7.3 million in FY 1988 and \$8.9 million in FY 1989 are for procurement of portable specialized radios to support the unique air, sea and land environment of the Explosive Ordnance Disposal (EOD) and Navy Special Warfare (NSW) missions, as well as funding for modernization of Naval Beach/Group Construction Force Communications/Tactical Air Contract Squadron (TACRONS) to remain compatible with the Fleet Marine Force and the Amphibious Surface Fleet. Funding for Assault Crafts requirements will also commence in FY 88. Funding of \$9.4 million in FY 1988 and \$10.7 million in FY 1989 is for procurement of communication systems to automate message processing and distribution functions aboard ship. Funding of \$5.3 million in FY 1988 and \$4.3 million in FY 1989 is for procurement of multicoupler interface components, antennas and various other items for the integration and completion of communication suites aboard ship. Finally, funding of \$3.8 million in FY 1988 and \$3.9 million in FY 1989 is for procurement of upgraded communication packages for flag configured logistic support ships and equipment for the Military Sealift Command/Ready Reserve Fleet (MSC/RRF).

Submarine Communications (P-1 Line Items 135-142)

	(\$ In Thousands)
<u>FY 1988</u>	<u>FY 1989</u>
\$16,448	\$60,693

These resources will procure communications equipment for Command and Control of the Fleet Ballistic Missile (FBM) and Attack Submarine Forces. Funds in the amount of \$1.1 million in FY 1988 and \$4.3 million in FY 1989 are for procurement of Low Frequency/Very Low Frequency (LF/VLF) communications hardware, upgrades and high efficiency amplifiers. Funding of \$0.8 million in FY 1988 and \$4.5 million in FY 1989 is for procurement of EPROM loaders printers for the LF/VLF test bed at NOSC, and commencement of an upgrade program for the Software Support Activity (SSA) and the ISABPS//EMATS II. These requirements are part of the VERDIN VLF communications system. Funding of \$1.2 million in FY 1988 and \$5.5 million in FY 1989 is for procurement of equipment to enhance the capabilities of the existing SSN-688 class radio room. Funding of \$13.3 million in FY 1988 and \$12.9 million in FY 1989 is for procurement of submarine communications equipment consisting of antennas, mast assemblies and buoyant cable antennas. In addition, funding of \$33.5 million in FY 1989 is for procurement of Compact Very Low Frequency (CVLF) receiver terminals to provide miniaturized VLF digital data processing and receiving on SSN Class Submarines.

Satellite Communications (P-1 Line Items 143 and 144)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$36,122	\$51,547

FY 1988 and FY 1989 Satellite Communications procurements provide for adequate command, control and communications with ships and aircraft through the Ultra High Frequency (UHF) and Super High Frequency (SHF) bands. Funding of \$36.1 million in FY 1988 and \$51.5 million in FY 1989 is for procurement of Demand Assignment Multiple Access (DAMA) systems, Officer in Tactical Command Information Exchange Subsystems (OTCIXS) equipment, Tactical Data Information Exchange Subsystems (TADIXS) equipment, Satellite Communications equipment for submarines operating in the arctic regions, Submarine Satellite Information Exchange Subsystems (SSIXS), Combat Direction Finding Communications equipment, Front End Processors for the Navy Modular Automated Communications Systems (NAVMACS) and modification kits for upgrading the Defense Satellite Communications terminals, AN/MSC-64 Navy Terminal, AN/TSC-96 terminals and equipment operating with the new KG-84C cryptologic equipment.

Shore Communications (P-1 Line Items 145-156)

(\$ In thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$34,945	\$39,387

Funding of \$4.5 million budgeted in FY 1988 and \$3.6 million budgeted in FY 1989 represents the Navy share of a Joint Service modernization of the Joint Chiefs of Staff (JCS) Communications equipment. Funding of \$1.1 million in FY 1988 and \$0.7 million in FY 1989 is for procurement of emergency generators and Uninterruptable Power Systems (UPS) for installation at various Naval Communication activities worldwide. Funding of \$10.3 million in FY 1988 and \$7.8 million in FY 1989 is for procurement of equipment and field change kits to replace obsolete High Frequency (HF) assets used to enable Naval Telecommunications to be viable in the absence of satellite communications. Funding in the amount of \$1.3 million in FY 1988 and \$1.3 million in FY 1989 is for procurement of manual suite upgrades which will provide functional standardization of Technical Control Facilities. Funding of \$1.9 million in FY 1988 and \$2.9 million in FY 1989 is for procurement of AN/FCC-100's which will convert the worldwide Defense Communications system to all digital terminals. Funding of \$2.3 million in FY 1988 and \$2.9 million in FY 1989 is for procurement of replacement and upgrade of microwave facilities in the worldwide Defense Communication System (DCS). Funding of \$10.2 million in FY 1988 and \$16.2 million in FY 1989 is for procurement of Local Digital Message Exchange (LDMX) terminals, and Remote Automated Terminals (RAT). Funding of \$1.7 million in FY 1988 and \$2.0 million in FY 1989 is for procurement of various communications equipment which supports the Worldwide Military Command and Control System (WWMCCS). Funding of \$1.6 million in FY 1988 and \$2.0 million in FY 1989 is for procurement of low dollar value items to support numerous Naval Shore Telecommunications programs.

Cryptographic Equipment (P-1 Line Items 157-174)

( \$ In Thousands )  
FY 1988      FY 1989

\$197,627      199,749

The FY 1988 and FY 1989 request will procure sufficient secure voice equipment to provide secure voice protection to an additional share of Navy's identified critical narrowband/wideband secure voice requirements. Funding of \$10.1 million in FY 1988 and \$11.6 million in FY 1989 is for procurement of the Single Audio System (SAS), a system where all shipboard radio voice subscribers have access to either a plain or cryptographically covered circuit, on an as required and programmed basis. The SAS will provide manual voice switching suites for smaller ships and an automated switching suite for larger ships. Both switching systems utilize a switch which is modularly expandable to suite the needs of various platforms. Funding of \$39.0 million in FY 1988 and \$26.4 million in FY 1989 is for procurement of TSEC/KY-71/72 equipments which will provide subscriber expansion and improvement over the secure voice capability presently provided by AUTOSEVOCOM I. New features include digital transmission, end to end secure voice with conferencing, better voice quality, and lower bit rate. Funding of \$52.1 million in FY 1988 and \$36.0 million in FY 1989 is for procurement of the TSEC/KG-84, a general purpose key generator capable of satisfying a wide variety of requirements and is designed to serve as the future standard link encryption device for low to medium speed record and/or data systems. Funding of \$15.6 million in FY 1988 and \$20.5 million in FY 1989 is requested for TSEC/KY-57/58, a wideband, push-to-talk (half-duplex) tactical speech security system for use in VHF/UHF communications. Funding of \$38.4 million in FY 1988 and \$47.2 million in FY 1989 is for procurement of the TSEC/KYV-5, the Cryptographic module for the Advance Narrowband Digital Voice Terminal (ANDVT) which satisfies requirements for secure narrowband communications which cannot be met by existing equipment. Funding of \$1.5 million in FY 1988 and \$2.0 million in FY 1989 is for procurement of the TSEC/KG-81, a full-duplex, high speed digital data encryption system for bulk encryption of the most vital DCS links. Funding of \$1.0 million in FY 1989 is for procurement of Blacker Cryptographic material which provides multilevel security capabilities to support Command and Control systems. Funding of \$8.6 million in FY 1989 is for procurement of the TSEC/KG-58/KGV-6, required to secure Marine Corps Ultra High Frequency Multi-Channel Communications in the Position Location and Reporting System (PLRS). Funding of \$4.6 million in FY 1988 and \$11.0 million in FY 1989 is for procurement of the TSEC/KGV-11, a general purpose communications security module designed for use with wide spectrum communications. Funding of \$12.4 million in FY 1988 and \$14.2 million in FY 1989 is for procurement of items of relatively low dollar value to meet special operational requirements. Funding of \$23.1 million in FY 1988 and \$20.4 million in FY 1989 is for procurement of COMSEC devices for the TRI-TAC switches. Funding of \$.4 million in FY 1988 and \$.4 million in FY 1989 is for procurement of the TEMPEST test equipment. Funding of \$.6 million in FY 1988 and \$.5 million in FY 1989 is for procurement of the KYK-13 battery operated transfer devices and the KOI-18 which is a lightweight battery operated device for reading light-level punched type.

Cryptologic Equipment (P-1 Line Items 175-180)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$12,092	\$18,307

These resources provide equipment to support Tactical Cryptologic missions and functions. Funding of \$1.2 million in FY 1988 and \$1.9 million in FY 1989 continues procurement of the Carry-on Special Intelligence Communications equipments, and continues procurement of the Special Intelligence Ship-Shore Teletype replacement equipments. Funding of \$4.1 million in FY 1988 and \$5.5 million in FY 1989 initiates and continues procurement of Carry-on Tactical Cryptologic ancillaries, equipment and systems for the Ships Signals Exploitation Space (SSES) aboard U.S. Navy combatants. Funding of \$3.9 million in FY 1988 and \$5.5 million in FY 1989 continues procurement of various replacement and cryptologic training equipments for use at U.S. Navy shore sites, training command, and aboard U.S. Navy combatants. Funding of \$1.3 million in FY 1988 and \$2.7 million in FY 1989 continues procurement of cryptologic systems for use at U.S. Navy ashore reserve training sites. Funding of \$0.4 million in FY 1988 and \$1.4 million in FY 1989 continues procurement of cryptologic systems for use at U.S. Navy ashore reserve training sites to ensure that cryptologic technicians maintain proficiency in various languages and manual Morse. Funding of \$1.3 million in FY 1988 and \$1.3 million in FY 1989 continues procurement of cryptologic support systems to be installed at various worldwide shore sites which are used in conjunction with afloat cryptologic systems to ensure that accurate tactical data bases are maintained.

Other Electronic Support (P-1 Line Items 181-183)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$2,837	\$2,950

This funding will procure critical repairable equipments in support of planned maintenance schedules and corrective maintenance actions for the FFG (LO-MIX) and DD (Engineering Operation Cycle) Class ships, dedicated test stations, industrial plant equipment, and test jigs and fixtures for selected depot rework facilities in support of the new maintenance strategies for the FFG and DD (EOC) Class ships (FY 1988 \$2.1 million; FY 1989 \$2.3 million). In addition, funding of \$0.7 million in FY 1988 and \$0.6 million in FY 1989 is for procurement of war reserve communication equipment, Radiac and ancillary equipments for Advanced Base Functional Components (ABFC's) which are planned groupings of personnel, material and equipment tailored to support overseas base deployment.

Budget Activity 3: AVIATION SUPPORT EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

	BUDGET PLAN				JUSTIFICATION PAGE
	1986 ACTUAL	1987 ESTIMATE	1988 ESTIMATE	1989 ESTIMATE	
SONOBUOYS	\$296,274	\$186,547	\$117,646	\$138,355	36
GENERAL PURPOSE BOMBS	278,822	186,593	189,676	193,476	37
AIR LAUNCHED ROCKETS	100,717	15,716	48,590	50,024	38
AIRCRAFT MACHINE GUN AMMUNITION	14,469	15,092	15,435	17,368	38
BIGEYE CHEMICAL WEAPON GATOR	-	19,802	10,209	9,937	38
MISCELLANEOUS ORDNANCE AND SUPPORT	-	24,649	19,751	20,869	39
WEAPONS RANGE SUPPORT EQUIPMENT	102,982	70,891	52,499	49,630	39
AIRCRAFT LAUNCHING AND RECOVERY EQUIPMENT	67,562	55,614	46,829	69,740	39
AIRCRAFT REARMING EQUIPMENT	22,441	34,517	62,731	36,114	40
AIRBORNE MINE COUNTER-MEASURES EQUIPMENT	51,227	38,336	35,277	18,440	40
LAMPS MK III SHIPBOARD EQUIPMENT	18,526	29,326	15,940	26,020	41
OTHER AVIATION SUPPORT	44,717	31,197	23,327	15,225	41
	46,871	55,086	54,622	94,597	41
<b>TOTAL BUDGET PLAN</b>	<b>\$1,044,608</b>	<b>\$763,366</b>	<b>\$692,532</b>	<b>\$739,795</b>	

Budget Activity 3: AVIATION SUPPORT EQUIPMENT

(\$ in Thousands)  
FY 1989 Estimate - \$ 739,795  
FY 1988 Estimate - \$ 692,532  
FY 1987 Estimate - \$ 788,366  
FY 1986 Actual - \$1,044,608

Purpose and Scope of Work:

Budget Activity 3 finances the procurement of all air-delivered ordnance required for the Navy forces and Marine Air Wings, except guided missiles funded under the Weapons Procurement, Navy (WPN) appropriation. It also includes air launched anti-submarine warfare (ASW) sensors, general support equipment associated with aircraft and other aviation support which includes ground electronics equipment, aircraft launching and retrieving equipment, photographic equipment, reconnaissance and electronic warfare processing and analysis equipment and miscellaneous other categories.

Justification of Funds:

Sonobuoys (Includes P-1 Line Item Nos. 184-191).

(\$ in Thousands)  
FY 1988  
FY 1989  
\$117,646      \$138,355

The FY 1988 and FY 1989 Sonobuoy procurement has been computed considering the number of ASW carrier air groups and shore based ASW patrol squadrons to be supported, actual and planned peace-time usage for these forces and the necessary training allowance requirements. User aircraft include the S-3A, P-3, SH-2D, and SH-3 series. Specific sonobuoys to be procured in FY 1988 and FY 1989 include the AN/SSQ-36 Bathythermograph Sonobuoy, an air-dropped bathythermograph transmitting set that provides a vertical water temperature profile (FY 1988 \$4.1 million; FY 1989 \$5.1 million); the AN/SSQ-53 (DIFAR), a passive directional sonobuoy used during the target localization phase of the Air ASW Mission (FY 1988 \$58.7 million; FY 1989 \$50.8 million), the AN/SSQ-57 (Special Purpose) Sonobuoy, a calibrated AN/SSQ-41 sonobuoy used to obtain acoustic and sound pressure level data and to measure ambient noise (FY 1988 \$2.8 million; FY 1989 \$3.0 million); the AN/SSQ-62 (DICASS) Sonobuoy, an active directional sonobuoy (FY 1988 \$18.7 million; FY 1989 \$26.0 million), and the AN/SSQ-77 (VIAD) Sonobuoy, a passive directional sonobuoy utilizing a line array of omni-directional hydrophones and a DIFAR element. The directional beam patterns are formed from the line array to discriminate against noise and the DIFAR enables determination of the azimuthal bearing of detected sound (FY 1988 \$33.4 million; FY 1989 \$24.5 million).

Funds are also required for procurement of the Low Cost Sonobuoy program, an effort to streamline design specification while using high volume production techniques in order to significantly reduce unit costs for the cost effective production of large quantities of sonobuoys needed to counter acoustic improvements in Soviet submarines. (FY 1989 \$27.3 million). The FY 1989 request also includes funding to support procurement of Signal Underwater Sound (SUS) devices which are expendable, high energy acoustic sources used for many applications including bottom mapping, long range signal transmission and position fixing (FY 1989 \$1.8 million).

General Purpose Bombs (P-I Line Item Nos. 192-196, 201).

	(\$ in Thousands)
FY 1988	FY 1989
\$189,676	\$193,476

These funds will procure the MK 83 thermally protected bomb, the BSU-85 Air Inflatable Retarder Fin for the MK-83 G.P. Bomb, the FMU-139/B electric fuze used on MK-80 series G.P. bombs, the MK 15/BSU-86 retard fin and the BSU-33 high drag mode fin both for the MK-82 G.P. Bomb. \$21.1 million is requested in FY 1988 and \$18.5 million in FY 1989 for procurement of the MK-83 thermally protected G.P. Bomb. In FY 1988 \$13.5 million and in FY 1989 \$10.8 million will procure the BSU-85 Air Inflatable Retarder Fin. \$8.8 million in FY 1988 and \$19.0 million in FY 1989 will procure the FMU-139/B electric fuze. \$10.5 million in FY 1988 and \$11.7 million in FY 1989 are for procurement of the DSU-30 proximity sensor. \$10.7 million is requested in FY 1988 and \$11.1 million in FY 1989 for procurement of PBX fill for the MK-82 G.P. Bomb. The remaining \$15.9 million in FY 1988 and \$17.9 million in FY 1989 are requested to procure various types of fins for these G.P. Bombs as well as miscellaneous component parts and production support. \$37.0 million in FY 1988 and \$37.4 million in FY 1989 are for the procurement of SKIPPER, a Rocket Powered Standoff Laser Guided MK 83 Bomb. \$4.4 million in FY 1988 and \$6.3 million in FY 1989 are for Paveway II Laser Guided Bomb Kits, which will be used to provide terminal guidance to the MK-82 general purpose bomb. \$10.7 million in FY 1988 and \$5.9 million in FY 1989 are for WALLEYE, an air-to-surface TV-guided glide bomb. WALLEYE funds will procure extended range (ER) and data link (DL) hardware for the conversion of WALLEYE I weapons to the ER/DL configuration. \$6.8 million in FY 1988 and \$5.5 million in FY 1989 are for procurement of FMU-140 proximity fuzes to retrofit the existing inventory of ROCKEYE II MK 20 500-lb, free-fall cluster bombs. The Practice Bombs procurement is \$14.4 million in FY 1988 and \$15.2 million in FY 1989 for the MK-76 and BDU-48 Practice Bombs, \$26.0 million in FY 1988 and \$23.1 million in FY 1989 for the MK-80 series inert bomb, \$1.1 million in FY 88 and \$1.5 million in FY 1989 for Cartridge Signal Units (CXU-3, CXU-4 and MK-4 smoke signals), \$3.4 million in FY 1988 and \$3.0 million in FY 1989 for ROCKEYE Practice Bombs, \$1.9 million in FY 1988 and \$2.8 million in FY 1989 for the BDU-36 Nuclear Trainer Practice Bomb (BDU-20 in FY 1989), and \$3.6 million in FY 88 and \$3.8 million in FY 1989 for production support services.

Air Launched Rockets (P-1 Line Item Nos. 197, 198).

(\$ in Thousands)  
FY 1988 \$ 48,590  
FY 1989 \$ 50,024

This category consists of the ZUNI 5.0" Rocket and 2.75" Rocket systems. The ZUNI and 2.75" rocket systems are air-to-ground weapons consisting of a variety of warheads and are fired from a four-round cylindrical launcher. Both rocket systems are cleared for use on the following USN and USMC aircraft: A4, A6, A7, F4, F/A-18, AH1, and OV10. Funding of \$29.5 million in FY 1988 and \$29.2 million in FY 1989 is requested for procurement of the air-to-ground Zuni 5.0" Wrap-around Fin Rocket system. In addition, funding of \$19.1 million in FY 1988 and \$20.9 million in FY 1989 is budgeted for the 2.75" Folding Fin Rocket system.

Aircraft Machine Gun Ammunition (P-1 Line Item No. 200).

(\$ in Thousands)  
FY 1988 \$ 15,435  
FY 1989 \$ 17,368

This category includes procurement of 20mm and 25mm ammunition used with various aircraft (A-4, A-6, A-7, F-8, F-14 and AV-8) gun systems. Funding of \$10.5 million in FY 1988 and \$13.1 million in FY 1989 is requested for procurement of 20mm practice gun ammunition used with various aircraft (A-4, A-6, A-7, F-8, and F-14) gun systems for fleet training to maintain pilot proficiency. Funding of \$2.3 million in FY 1988 and \$1.7 million in FY 1989 is to procure 25mm HEI and API service ammunition for war reserve requirements for the AV-8. Included in this program is \$1.4 million in FY 1988 and \$1.4 million in FY 1989 for production/engineering support of ammunition procurements. In addition, funding of \$1.2 million is provided in FY 1988 and \$1.1 million in FY 1989 for a product improvement effort to increase the safety and reliability of the 25mm fuze in addition to reducing its cost.

BIGEYE Chemical Weapon (P-1 Line Item No. 207).

(\$ in Thousands)  
FY 1988 \$ 10,209  
FY 1989 \$ 9,937

The BIGEYE is an air-launched binary spray chemical bomb. It generates and delivers a persistent nerve agent from two non-toxic chemicals. BIGEYE will provide enhanced safety and reliability on the existing inventory of aging chemical weapons. The FY 1988 request of \$10.2 million provides funds for the second year of production of the BIGEYE bomb. Funding in FY 1989 continues procurement of the BIGEYE.

GATOR (P-1 Line Item No. 209).

(\$ in Thousands)	
FY 1988	FY 1989
\$ 19,751	\$ 20,869

The \$19.8 million in FY 1988 and \$20.9 million in FY 1989 is to procure GATOR CBU-78 500 pound bombs. The GATOR weapon consists of a MK-7 dispenser that contains a mixture of air-scatterable anti-tank and anti-personnel land mines. It is used in support of the Marine Corps amphibious support mission and can be fired from a variety of aircraft.

Miscellaneous Ordnance and Support (P-1 Line Item Nos. 199, 202-206, 208, 210).

(\$ in Thousands)	
FY 1988	FY 1989
\$ 52,499	\$ 49,630

Budgeted procurements will include chaff decoy heads for electronic countermeasures impulse cartridges, and other miscellaneous ordnance and support. Funding of \$7.7 million in FY 1988 and \$8.8 million in FY 1989 is requested for the Parachute Flare Program to procure the SUU 25 parachute flare. Funding of \$7.7 million in FY 1988 and \$9.6 million in FY 1989 are for the procurement of impulse cartridges used for ejecting air-launched weapons and other cartridge-actuated devices. Funding of \$4.7 million in FY 1988 and \$4.6 million in FY 1989 is requested for rocket motors and catapults used for ejecting aircrewmembers from disabled aircraft. Funding of \$25.5 million in FY 1988 and \$18.1 million in FY 1989 is requested for procurement of airborne expendable countermeasures including chaff, infrared flares and expendable jammers to meet training and war reserve (mobilization) requirements. Funding of \$4.1 million in FY 1988 and \$5.2 million in FY 1989 is requested for JATO (Jet-Assisted Take Off) rockets used to launch aircraft and targets and to propel sleds used in testing. The remaining \$9.7 million in FY 1988 and \$11.3 million in FY 1989 are requested for miscellaneous ordnance, including such items as Marine Location Markers, and Defense Nuclear Agency material.

Weapons Range Support Equipment (P-1 Line Item No. 211).

(\$ in Thousands)	
FY 1988	FY 1989
\$ 46,829	\$ 69,740

Procurements in FY 1988 include the following: (1) \$1.9 million for a threat radar simulator at the Atlantic Fleet Weapons Training Facility (AFWTF), (2) \$3.5 million for System Replacement and Modernization; (3) \$1.6 million for upgrading the West Coast Tactical Aircrew Combat Training System (TACTS) at Fallon, NV; (4) \$8.4 million for upgrading the East Coast TACTS at Oceana, VA; (5) \$2.5 million for two surveillance radars, one for Boardman, WA and one for El Centro, CA, (6) \$1.8 million for seven integrated laser training

systems for five different sites, (7) \$15.1 million for introducing a new ASW underwater range in southern California (SOCAL), (8) \$3.0 million for telecommunications equipment at the Pacific Missile Range Facility and (9) \$3.4 million for an underwater tracking range computer for St. Croix. \$5.6 million is required for production engineering and integrated logistics support (ILS) efforts. Procurements in FY 1989 include the following: (1) \$7.2 million for a Range Electronic Warfare Simulator (REWS) to be used for surface and air fleet electronic warfare (EW) training exercises; (2) \$29.5 million for Aircrew Electronic Warfare Ranges at Fallon, NV and Cherry Point, NC; (3) \$3.9 million for Systems Replacement and Modernization; (4) \$3.6 million for upgrading the West Coast TACTS at Fallon, NV; (5) \$3.6 million for upgrading of the East Coast TACTS at Cherry Point, NC and Oceana, VA, and (6) \$5.4 million for additional capabilities at the ASW underwater range at SOCAL. Various other range equipment is being procured for \$4.2 million. \$12.3 million is required for production engineering and ILS efforts.

Aircraft Launching and Recovery Equipment (P-1 Line Item Nos. 212 and 214).

	(\$ in Thousands)
FY 1988	
	\$ 62,731
FY 1989	
	\$ 36,114

Catapult, Arresting Gear, and Visual Landing Aids Support for the Navy's aircraft carrier, and the Marine Corps' Expeditionary Airfield (EAF) systems are funded under this program. Funding of \$15.7 million in FY 1988 and \$14.8 million in FY 1989 are for EAF support equipment to enhance maintainability, reliability and safety of flight operations, and to keep pace with advanced aircraft requirements by correcting known deficiencies and by modernizing EAF equipment. Funding of \$47.0 million in FY 1988 and \$21.3 million in FY 1989 is for the procurement of major catapult, arresting gear and visual landing aids equipment for aircraft carriers and other aircraft capable ships.

Aircraft Rearming Equipment (P-1 Line Item No. 213).

	(\$ in Thousands)
FY 1988	
	\$ 35,277
FY 1989	
	\$ 18,440

The Aircraft Rearming Equipment program provides armament support equipment (ASE) and weapons support equipment (WSE) for use ashore and afloat to load and/or download air-launched weapons and to perform maintenance on aircraft-installed armament systems. WSE equipment is used to transport and perform maintenance on weapons and explosive ordnance components. ASE and WSE are utilized to accomplish the improved rearming rate (IRR) of A-6, EA-6, A-7, F-4, F-14, F-18, and AV-8 aircraft. The use of this equipment permits the rapid weapons loading and reloading of strike aircraft with a minimum number of flight deck personnel.

Airborne Mine Countermeasures Equipment (P-1 Line Item No. 218).

(\$ in Thousands)	
FY 1988	FY 1989
\$ 15,940	\$ 26,020

This program funds various mine countermeasures equipment operated by RH/CH-53D/MH-53E helicopters. The funding requested in FY 1988 will procure 4 sets of airborne mine countermeasures (AMCM) tow provision kits which provide the necessary removable equipment that allow the helicopter to tow an AMCM system (\$4.2 million) and ten AN/ALQ 141 Sonar Countermeasures sets (\$10.2 million). Funds requested in FY 1989 will procure ten ALQ-14 mine hunter sonar systems (\$12.0 million) and thirty-six A/N 37U-1 mechanical mine sweeping systems (\$12.0 million). The latter provides a new capability to the Navy's mine sweeping mission. Amounts of \$1.5 million in FY 1988 and \$2.0 million in FY 1989 are included for various upgrades to the existing AMCM inventory.

LAMPS MK III Shipboard Equipment (P-1 Line Item No. 219).

(\$ in Thousands)	
FY 1988	FY 1989
\$ 23,327	\$ 15,225

Equipment to be installed in existing ships being backfitted with the LAMPS MK III weapon system is procured in this line item. This equipment includes the AN/SRQ-4, a shipboard terminal data transmission device (5 for \$5.0 million in FY 1988 and 6 for \$5.8 million in FY 1989) and the shipboard Helicopter Landing System (HLS) for the LAMPS MK III helicopter (3 for \$5.0 million in FY 1988 and 1 for \$1.8 million in FY 1989). Other requirements include system integration efforts (\$3.7 million in FY 1988; \$3.6 million in FY 1989), peculiar ground support equipment (\$2.4 million in FY 1988; \$.5 million in FY 1989), and various production engineering and integration logistics support items (\$7.2 million in FY 1988; \$3.5 million in FY 1989).

Other Aviation Support (P-1 Line Item Nos. 215-217, 220-222).

(\$ in Thousands)	
FY 1988	FY 1989
\$ 54,622	\$ 94,597

Funds budgeted include the procurement of Meteorological equipment, Other Photographic equipment, Survival equipment, Reconnaissance equipment, Stock Surveillance equipment, and Other Aviation Support equipment. The Meteorological equipment program finances the procurement of meteorological equipment required by the Navy

to gather worldwide weather data and to rapidly disseminate weather information to Navy and Marine Corps users. The information provided is required for weather forecasting, flight safety and planning fleet operations. The Navy, in addition to providing specialized weather service peculiar to its needs, coordinates services with the DOD and civilian weather agencies. Meteorological equipment to be procured in both FY 1988 and FY 1989 includes equipment for the high-speed dissemination of weather information and miscellaneous equipment to monitor and report weather conditions at sea and shorebased activities (\$26.1 million in FY 1988 and \$33.3 million in FY 1989). Other Photographic equipment funds the procurement of photographic equipment for all Navy, shore and seaborne photographic laboratories, plus various intelligence activities (\$1.8 million in FY 1988 and \$1.9 million in FY 1989). The Survival equipment program finances procurement of the PRC-90 1 Aircrew Survival Radio (\$3.7 million in FY 1988 and \$2.5 million in FY 1989), and chemical/biological personal protective equipment (\$3.3 million in FY 1988 and \$2.7 million in FY 1989) for use by aircrewmen. In FY 1989 \$2.7 million is requested for procurement of PRC-112 Survival radios and \$.2 million for PRC-125 Rescue Swimmers radios. The Survival equipment program also includes funds for support equipment, Integrated Logistics Support and Production Support (\$2.5 million in FY 1988 and \$4.5 million in FY 1989). \$4.4 million in FY 1989 is requested to buy equipment in support of the Reconnaissance Electronic Warfare, Special Operations and Naval Intelligence (REWSON) program. Procurement includes: (1) readout equipment for ship and shore reconnaissance squadrons, (2) surface and subsurface photo collection equipment, (3) analytical equipment to support these collectors and (4) equipment of a photographic and analytic nature for use by ship combatants. The Stock Surveillance equipment line provides funds for procurement of equipment needed to monitor, measure, and assess the condition of current Navy stocks of air-launched missiles and air-launched ordnance and ammunition (\$3.2 million in FY 1988 and \$3.2 million in FY 1989). 80% of the funds support missile inventory quality evaluation (surveillance) efforts and 20% support air-launched ordnance evaluation, including bombs, rockets, and cartridge actuated devices. Material readiness factors such as reliability and serviceability are measured by this effort. The Other Aviation Support Equipment line funds miscellaneous programs (\$13.9 million in FY 1988 and \$39.1 million in FY 1989). Included are funds for procurement of fleet telemetry equipment which is used to receive, record and analyze missile telemetry performance data providing information to evaluate training/test exercises (\$.6 million in FY 1988 and \$8.5 million in FY 1989). Also included is \$1.6 million in FY 1988 for collateral equipment in support of the Naval Air Systems Command and its field activities; \$2.0 million in FY 1988 for shipboard-installed, Remotely Piloted Vehicle (RPV) support equipment; and \$22.4 million in FY 1989 for Industrial Plant Equipment for NAEC, Lakehurst and NAC, Indianapolis, field activities which are to be funded from operating budgets rather than from the Navy Industrial Fund (NIF) beginning in FY 1989. The Other Aviation Support Equipment line also funds procurement of a computerized Tactical Aircraft Mission Planning System (TAMPS). \$9.5 in FY 1988 and \$8.0 million in FY 1989 are requested for this program. Installations are planned for aviation-capable ships, air stations, aviation training, support facilities and deployed aviation units.

BUDGET ACTIVITY 4: ORDNANCE SUPPORT EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

BUDGET PLAN						
(Amounts for Procurement Actions Programmed)						
	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	JUSTIFICATION PAGE	
SHIP GUN AMMUNITION	206,217	184,880	148,117	177,301	44	
SHIP GUN SYSTEMS EQUIPMENT	55,579	39,607	13,914	16,800	44	
SHIP MISSILE SYSTEMS EQUIPMENT	464,947	523,861	289,702	354,603	45	
FBM SUPPORT EQUIPMENT	138,618	103,977	66,745	471,052	46	
ASW SUPPORT EQUIPMENT	120,585	145,884	90,665	132,219	46	
OTHER ORDNANCE SUPPORT EQUIPMENT	29,009	35,609	34,108	39,188	46	
OTHER EXPENDABLE ORDNANCE	137,610	136,067	126,291	181,689	47	
<b>TOTAL BUDGET PLAN</b>	<b>1,152,565</b>	<b>1,169,885</b>	<b>769,542</b>	<b>1,372,832</b>		

Budget Activity 4: Ordnance Support Equipment

(\$ In Thousands)  
FY 1989 Estimate - \$1,372,832  
FY 1988 Estimate - \$ 769,542  
FY 1987 Estimate - \$1,144,885  
FY 1986 Actual - \$1,152,565

Purpose and Scope of Work

Funds provided in this budget activity are for Ship Gun Ammunition, Ship Gun and Ship Missile Systems equipment, Fleet Ballistic Missile and Anti-Submarine Warfare Support equipment, Other Ordnance Support equipment, and Other Expendable Ordnance.

Justification of Funds

Ship Gun Ammunition (Includes P-1 Line Items 223-230)

(\$ In Thousands)  
FY 1988             
FY 1989             
\$148,117            \$177,301

The FY 1988 request of \$148.1 million and FY 1989 request of \$177.3 million for Ship Gun Ammunition is for procurement of Three-inch and Five-inch ammunition, 20mm ammunition for the Close-In Weapon System (CIWS), 76mm ammunition, Sixteen-inch ammunition, and Other Ship Gun Ammunition. The primary mission for the 76mm ammunition is for use against air targets but it is also for use against surface and shore targets. The Sixteen-inch ammunition is for use by battleships against surface and shore targets. The Five-inch ammunition is the most common and is used by nearly all of the Navy's combatant ships.

Ship Gun Systems Equipment (Includes P-1 Line Items 231-232)

(\$ In Thousands)  
FY 1988             
FY 1989             
\$13,914            \$16,800

The FY 1988 request of \$13.9 million and the FY 1989 request for \$16.8 million is to procure Gun Fire Control equipment. The funds requested for Gun Fire Control equipment are for the procurement of equipment and ordnance alterations to improve reliability and maintainability of the MK-86 and MK-68/56 surface Gun Fire Control Systems installed on all surface combatants fitted with 5" naval guns.

Ship Missile Systems Equipment (Includes P-1 Line Items 233-242)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$289,702	\$354,603

The FY 1988 request of \$289.7 million and the FY 1989 request of \$354.6 million are for Ship Missile Systems (SMS) programs. The MK-92 Fire Control System request of \$7.0 million in FY 1988 and \$14.4 million in FY 1989 will provide for improved readiness of the MK-92 system. The FY 1988 and FY 1989 requests of \$38.0 million and \$48.6 million respectively for Harpoon Support equipment will be used to procure Ordnance Alterations. The TERRIER Support equipment request of \$48.5 million in FY 1988 and \$50.9 million in FY 1989 will provide for modification to the TERRIER Missile Weapon Systems including Fire Control System MK 76, Weapons Direction System MK 14, Guided Missile Launching System MK 10, Communications Tracking Set AN/SYR-1 and Ancillary support equipment. These modifications provide for CG/SM-2 performance improvements (Standard Missile (Extended Range), Block I missile capability), New Threat Upgrade performance improvements (Standard Missile 2 (Extended Range) Block II missile capability) and associated reliability/maintainability/availability improvements in CG-16/26/N9/N25/N35 Class ships. The requests in FY 1988 and FY 1989 of \$64.2 million and \$61.0 million, respectively, for the TARTAR Support equipment program are for improvements to the CGN/DDG/SM-2 Weapon System including Fire Control Radar Mods, Weapons Direction System (WDS MK-14), AN/SYR-1 Downlink Receiver and Ancillary Modifications to provide capability to fire the SM-2 (MR) missile; and improvements to the Guided Missile Launching System MK 13 Mod 4 on the FFG-7 Class ships. The Point defense Support equipment request of \$14.1 million in FY 1988 and \$17.2 million in FY 1989 will provide air defense of selected ships by upgrading the NATO SEASPARROW Surface Missile System including modifications to fire the RIM-7M Monopulse Missile, and procurement of associated special test equipment and modifications to incorporate specific improvements to increase reliability. The request also includes procurement of the launch system to fire the RAM Missile. The \$1.0 million requested in FY 1988 and \$1.1 million requested in FY 1989 for Airborne ECM/ECCM will provide for equipment used to simulate projected enemy jamming tactics and techniques during Surface Warfare Systems evaluations and Fleet exercises. The AEGIS Support equipment request of \$4.2 million in FY 1988 and \$45.9 million in FY 1989 will provide shore based assets for the AEGIS Combat System/Educational Center to support the Battle readiness of AEGIS Cruisers including AEGIS Combat System Center equipment and AEGIS Educational Center equipment. The Surface TOMAHAWK Support equipment request of \$50.9 million in FY 1988 and \$37.4 million in FY 1989 will procure Common Weapons Control Systems (CWCS), and Armored Box Launchers for surface ships missile landing systems. The FY 1988 request of \$5.5 million and the FY 1989 request of \$2.6 million for the Submarine TOMAHAWK Support equipment program will procure modifications to the MK-117 Fire Control System for SSN 637 and 688 Class submarines to provide these submarines the capability to launch the TOMAHAWK Cruise Missile. The Vertical Launch Systems request of \$56.0 million in FY 1988 and \$75.5 million in FY 1989 will provide for installation of three VLS systems on DD 963 and CG 47 class ships and a training site.

Strategic Platform Support Equipment (Includes P-1 Line Item 243)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$66,745	\$471,032

The FY 1988 request of \$66.7 million and the FY 1989 request of \$471.0 million for Strategic Platform Support equipment provides funding for ordnance support, ship alterations and test equipment for the TRIDENT submarine and TRIDENT Refit Facility (TRIREFFAC) located at Naval Submarine Base (NSB), Bangor, Washington and numerous support facilities. In addition, funds are requested for the procurement of Strategic Weapon System (SWS) equipment for deployed SSBNs and shore support sites to support the POSEIDON (C-3), TRIDENT I (C-3), TRIDENT I (C-4) and TRIDENT II (D-5) programs and procurement of Strategic Weapons System equipment and ship system ordnance equipment needed to establish the Naval Submarine Base, Kings Bay Georgia. The increase in FY 1989 supports TRIDENT II backfits for overhaul installation and TRIDENT II navigation and weapons training equipment.

ASW Support Equipment (Includes P-1 Line Items 244-248)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$90,665	\$132,219

The FY 1988 request of \$90.7 million and FY 1989 request of \$132.2 million is for Anti-Submarine Warfare Support equipment for procurement of the All Digital Attack Center (ADAC), which includes FCS MK 117 Increased Display and Conversion for Over the Horizon targeting, Advanced Capability (ADCAP) Torpedo, and FCS MK 117/CCS MK-1 Improvements. In addition, FY 1988 and FY 1989 funding will support procurement of various upgrades to submarines and surface torpedo tube equipment, Anti-Submarine Rocket (ASROC) launchers, various test equipments, and procurement of equipment to support the MK-113 Mod 9 Improvement program. These funds will also provide for the procurement of Anti-Submarine Warfare torpedo exercise and shore support equipment, range equipment for Fleet Operational Readiness Accuracy Check Sites (FORACS) and Sensor Accuracy Check Sites (SACS), and test equipment to support Weapon System Accuracy Trails (WSAT).

Other Ordnance Support Equipment (Includes P-1 Line Items 249-255)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$34,108	\$39,188

The FY 1988 request of \$34.1 million and the FY 1989 request of \$39.2 million for Other Ordnance Support equipment are for various ordnance programs not budgeted under other programs within this budget activity. Some of the major programs include: Explosive Ordnance Disposal equipment, Unmanned Seaborne Targets, and Stock Surveillance equipment. The request in both FY 1988 and FY 1989 for Explosive

Ordnance Disposal equipment provides for procurement of necessary EOD tools and equipment required for initial outfitting of EOD units. These equipments provide ordnance location and safe disposal of unexploded ordnance. The request for Unmanned Seaborne Targets provides Surface Seaborne Targets for Fleet training, with procurement of Septar Targets and Floating Automatic Scoring Target (FAST) hulls in FY 1988 and continuing in FY 1989. The request in FY 1988 and FY 1989 for Stock Surveillance equipment provides resources for determining safety, reliability, readiness, and service/shelf life of both stored and deployed Navy and Marine Corps tactical weapons and weapon systems and the causes for their degraded state. Other programs included in the FY 1988 and FY 1989 request are Swimmer Weapons Systems, Anti-Ship Missile Decoy System, Calibration equipment, and Other Ordnance Training equipment.

Other Expendable Ordnance (Includes P-1 Line Items 256-262)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$126,291	\$181,689

The FY 1988 request of \$126.3 million and the FY 1989 request of \$181.7 million is for procurement of other expendable ordnance. The Small Arms and Landing Party Ammo request in FY 1988 and FY 1989 provides ammunition in support of active naval vessels, and for active and reserve special warfare forces including replacement of Non-Combat Expenditure Requirements (NCER), initial allowance for all approved active and reserve forces, and a combat reserve and/or material pipeline of ammunition quantities based on a "Days of Support" analysis. The FY 1988 and FY 1989 request for Pyro and Demo Material provides pyrotechnics and demolition materials for all active naval vessels, amphibious and mobile construction battalions, harbor clearance units, cargo handling and port groups, naval security groups, and naval special warfare groups. The QUICKSTRIKE request in FY 1988 and FY 1989 provides for the procurement of the 2000 lb MK-65 service and non-service mines to include the MK-58 Target Detecting Devices (TDDs) and associated safety and arming devices. The request for Fleet Mine Support Equipment in FY 1988 and FY 1989 provides for the procurement of material and production support services for the assembly of mines in stockpile. The request also provides for support of fleet proficiency training, mine warfare and mine countermeasures training, and improved stockpile mine performance. The Shipboard Expendable Countermeasures program provides for Anti-Ship Missile Decoys deployed from the MK-36 Decoy Launching System. The FY 1988 and FY 1989 request provides for SEA GNAT RF Decoys and MK-186-IR Decoys. Also included under Other Expendable Ordnance is funding for Defense Nuclear Agency (DNA) material for procurement of trainers and support equipment for the W-80 Series (TOMAHAWK) and other nuclear weapons systems in order to conduct nuclear safety studies, certification of ships/depots with respect to nuclear capability and for training and certification of weapons maintenance and handling personnel.

BUDGET ACTIVITY 5: CIVIL ENGINEERING SUPPORT EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

Budget Plan (Amount for Procurement Actions Programmed)					
	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	JUSTIFICATION PAGE
Passenger Carrying Vehicles	9,962	4,893	10,411	10,425	49
Trucks, Trailers, Construction and Maintenance Equipment	85,227	58,435	68,017	91,875	50
Amphibious Equipment and Combat Construction Support Equipment	77,999	41,732	18,462	37,716	50
Fleet Hospitals	26,100	78,940	0	0	51
Other Equipment	18,354	17,144	19,910	16,796	51
<b>Total Budget Plan:</b>	<b>217,642</b>	<b>201,144</b>	<b>116,800</b>	<b>156,812</b>	

Budget Activity 5: Civil Engineering Support Equipment

(\$ In Thousands)  
FY 1989 Estimate - \$156,812  
FY 1988 Estimate - \$116,800  
FY 1987 Estimate - \$201,144  
FY 1986 Actual - \$217,642

Purpose and Scope of Work

Funds provided under this budget activity are for the procurement of passenger carrying vehicles, armored sedans, trucks and trailers, construction, earthmoving, maintenance, fire fighting, weight handling, amphibious and specialized equipment, combat construction support equipment, collateral equipment, ocean construction equipment, mobile utilities support equipment, fleet mooring, and pollution control equipment. This equipment is procured for Navy-wide use by the Operating Forces and Shore establishments including only passenger carrying vehicles for the Industrial Fund activities.

Passenger Carrying Vehicles (P-1 Line Item 263 & 264)

(\$ In Thousands)  
FY 1988                      FY 1989  
\$10,411                      \$10,425

This category provides for replacement and limited augmentation of buses, sedans, station wagons and armored sedans for all Navy activities. Included are replacement vehicles for Navy Industrial Fund (NIF) activities in compliance with the 97th Congress House of Representatives Conference Report No. 97-980. In addition, funding has been included to avoid uneconomical leasing through increased procurement as directed by Department of Defense Appropriation Bill, 1984, Report Number 98-427, Title III. The FY 1988 program provides for the replacement of 525 vehicles leaving an additional 1,476 which will still exceed economic replacement criteria. The FY 1989 program provides for replacement of 588 vehicles leaving an additional 1,161 which will still exceed economic replacement criteria. This category does not include ambulances, which are addressed below.

Trucks, Trailers, Construction and Maintenance Equipment (P-1 Line Items 265-273)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$68,017	\$91,875

This category includes trucks, trailers, generators, crushing, drilling, earth moving, fire fighting and weight handling equipment and ambulances for the protection and maintenance of Naval Shore Activities, Naval Construction Force, and various other Operational Forces worldwide. The funding requested is primarily to bring the quantity of equipment exceeding the economic replacement criteria to an acceptable level. In addition, FY 1988 and FY 1989 funds are required to continue the ongoing program for initial outfitting of the Advanced Base Functional Component (ABFC) OPLAN (\$2.0 million in FY 1988 and \$.7 million in FY 1989), the Reserve Naval Construction Force (RNCF) (\$.5 million in FY 1988 and \$4.1 million in FY 1989), and the Assault Follow-on Echelon (AFOE) (\$3.3 million in FY 1988 and \$3.3 million in FY 1989).

Amphibious Equipment (P-1 Line Item 274) and Combat Construction Support Equipment (P-1 Line Item 275)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$18,462	\$37,716

These funds provide specialized amphibious equipment which significantly enhances the Navy's capability to support Marine Corps amphibious operations through the ship-to-shore transfer of both dry and liquid cargo and is a key part of the Strategic Sealift Program. This equipment will be used by the Amphibious Construction Battalions in the Assault Echelon and Assault Follow-on Echelon phase of amphibious operations to provide essential logistic support in advanced areas having little or no port capability. The FY 1988 and FY 1989 programs include amphibious dry cargo transfer equipment including powered and non-powered causeway sections, side loadable warping tugs, elevated causeway, and other miscellaneous amphibious specialized equipment. Combat Construction Support Equipment consists primarily of relocatable facilities such as storage magazines, fuel storage tanks, multipurpose shelters and containers, and panel buildings in support of Naval Construction Force personnel. The FY 1988 and FY 1989 programs include the outfitting of Naval Mobile Construction Battalions with containers for prepacking Table of Allowance items and provide shelters for the protection of personnel against chemical agents at overseas Naval Bases.

Other Equipment (P-1 Line Items 276-281)

(\$ in Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$19,910	\$16,796

Various other programs are budgeted in Budget Activity 5 under the category of Other equipment. Mobile Utilities Support Equipment provides electric power and high quality steam for support to the fleet while in port, and for emergency shore operations, serious utility system deficiencies and delayed military construction. Collateral equipment provides equipment and furnishings to initially outfit Military Construction projects. Ocean Facilities Construction equipment provides strategic deterrence, anti-submarine warfare, and other fleet underwater construction programs. Procurement of components for overhauling fleet moorings is budgeted in the Fleet Moorings program. Pollution control equipment is for compliance with Clean Air Act and Clean Water Act Amendments, various Environmental Protection Agency regulations and State implementation plans. Also included in this category is Other Civil Engineering Support equipment for administrative equipment, public works shop equipment and specialized inspection equipment.

Fleet Hospitals (P-1 Line Item 282)

Combat Zone and Communication Zone Hospitals consist of shelters, transportation equipment, medical equipment and other hospital support equipment, and will provide medical care for Navy and Marine Corps personnel during wartime. Beginning in FY 1988, funds are budgeted in budget activity 7, personnel and command support equipment under the Medical Support Equipment program (P-1 Line Item 298).

BUDGET ACTIVITY 6: SUPPLY SUPPORT EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

Budget Plan

(Amounts for Procurement Actions Programmed)

	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	JUSTIFICATION PAGE
Materials Handling Equipment and Systems	25,995	25,730	32,603	36,790	53
Other Supply Support Equipment	0	8,098	13,056	11,058	54
Classified Programs	29,247	36,143	76,346	148,686	54
Total Budget Plan	55,242	69,971	122,005	196,534	

Budget Activity 6 - Supply Support Equipment

(\$ In Thousands)  
FY 1989 Estimate - \$196,534  
FY 1988 Estimate - \$122,005  
FY 1987 Estimate - \$ 69,971  
FY 1986 Actual - \$ 55,242

Purpose and Scope of Work

This budget activity finances the procurement of forklift trucks and other materials handling equipment used at Navy installations and aboard ships; automated materials handling systems; investment type support equipment; and reprographics equipment. In addition, financing for certain classified projects is included in this activity.

Justification of Funds

Materials Handling Equipment and Systems (P-1 Line Items Nos. 283-285)

(\$ In Thousands)  
FY 1988                      FY 1989  
\$32,603                      \$36,790

These funds are requested to procure Forklift trucks in FY 1988 and FY 1989 which are needed for the cyclical replacement of equipments which have exceeded their economic replacement criteria in use aboard ships and at shore activities. These overage equipments are more costly to maintain than to replace.

For Other Materials Handling equipment, the FY 1988 and FY 1989 requests represent the twelfth increment of a phased equipment replacement program designed to reduce the significant level of overage warehouse tractors, cranes and other equipment in the inventory.

The requested funds for the Automated Materials Handling Systems (AMHS) will provide for the installation of three Navy Integrated Storage Tracking and Retrieval Systems (NISTARS) in FY 1988 and FY 1989. NISTARS automates certain warehouse functions and places the entire warehouse operation under positive management control and automation. It improves the efficiency of labor and materials, as well as improves inventory accuracy. The first three sites were procured with an acquisition strategy which required one contractor to provide software, computer control, and all AMHS. A new acquisition strategy has been developed to breakout stand-alone AMHS as government furnished equipment in the competitive contract for these NISTARS sites.

Other Supply Support Equipment (P-1 Line Items Nos. 286-287)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$13,056	\$11,058

The request for Other Supply Support equipment includes the procurement of shop and office equipment, reprographics, uninterrupted power service units, enlisted dining facilities equipment, office automation, and pollution control projects.

Classified Programs (P-1 Line Items No. 288)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$76,346	\$148,686

Details of this program are of a higher classification. Justification is provided separately.

BUDGET ACTIVITY 7: PERSONNEL AND COMMAND SUPPORT EQUIPMENT  
SUMMARY OF BUDGET PLAN  
(In Thousands)

	Budget Plan				JUSTIFICATION PAGE
	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	
Training Equipment	91,515	129,500	61,368	110,410	56
Command Support Equipment	243,232	186,906	177,718	214,564	57
Computer Acquisition Equip	178,059	175,701	229,324	219,279	58
Productivity Programs	3,962	10,371	9,361	16,309	58
<b>Total Budget Plan</b>	<b>516,768</b>	<b>502,478</b>	<b>477,771</b>	<b>560,562</b>	

Budget Activity 7: Personnel and Command Support Equipment

(\$ In Thousands)  
FY 1989 Estimate - \$560,562  
FY 1988 Estimate - \$477,771  
FY 1987 Estimate - \$502,478  
FY 1986 Actual - \$516,768

Purpose and Scope of Work

This budget activity finances the procurement of Training Equipment, Command Support Equipment, Computer Equipment and Productivity Investment Programs.

Justification of Funds

Training Equipment (P-1 Line Items 289-295)

(\$ In Thousands)  
FY 1988             
FY 1989             
\$61,368           \$110,410

Surface training devices will provide maintenance, operator, team, and refresher training for new combat systems/capabilities being introduced into the fleet. Requested funding supports a variety of cost effective devices including Surface Sonar Trainers, Ship System Trainers and Surface Combat System Trainers (FY 1988 \$33.9 million; FY 1989 \$74.8 million).

The submarine trainers will provide for procurement of acoustic trainers which simulate the digital data processing and graphic displays of the newly developed sonar systems and the procurement of a training system which will generate real-time, dynamic submarine tactical training scenarios. (FY 1988 \$21.7 million; FY 1988 \$27.2 million).

Funding is required to procure Training Support Equipment (TSE) consisting of minor training aids and devices to support the education and training programs to supply the fleet with effectively trained personnel (FY 1988 \$2.6 million; FY 1988 \$4.6 million).

Training Device Modifications provide cost-effective enhancements to update the existing inventory of training devices. The modifications help maintain the training value of devices and keep them compatible with equivalent changes made to the fleet operational equipments which these devices simulate (FY 1988 \$3.1 million; FY 1989 \$3.7 million).

Command Support Equipment (P-1 Line Items 296-304, 306)

	(\$ In Thousands)
<u>FY 1988</u>	<u>FY 1989</u>
\$177,718	\$214,564

This funding provides for the procurement of items which have a unit cost over \$25 thousand including Command Support, Intelligence Support, Education Support, Medical Support, Operating Forces Support, Naval Reserve Support, Oceanographic Support, Physical Security Support, and Non-Centrally Managed equipment.

This request includes acquisition of equipment needed for the Naval Intelligence Command and its field activities. It is a part of the General Defense Intelligence Program (GDIP) requirements. Details on this classified program are contained in the Intelligence Justification Books, provided separately.

Funding is also requested to procure Medical Support equipment to be located in the United States and for repositioned Fleet Hospitals. Funds requested to replace existing worn-out, obsolete assets located in the United States will provide for the acquisition of new technological developments for a modern health care delivery system. Funds requested for Fleet Hospitals will procure shelters, transportation equipment medical equipment, and other hospital support equipment to provide medical care for Navy and Marine Corps personnel during wartime. Procurement of equipment for fleet hospitals was budgeted in Budget Activity 5, Civilian Engineering Support Equipment (P-1 line item 282) through FY 1987. The line item was transferred to Budget Activity 7 to provide for better program management. The FY 1989 program funds provide for one 500 bed combat zone hospital.

Funds are requested to procure Oceanographic equipment required to collect, analyze, and disseminate environmental data. This data is critical for precise positioning, navigation, and targeting of enemy air, surface, and sub-surface weapon systems.

Funds are requested for acquisition of equipment to support the following Physical Security programs: nuclear weapons security, remote sensors and other intrusion detection devices required for physical security at Naval bases and sensitive installations.

Funds are requested for acquisition of equipment to support Chief of Naval Operations field activities, Naval Military Personnel Command, Naval Telecommunications Command, Office of the Secretary of the Navy, Naval Reserves, Naval Academy, Naval Postgraduate School, Naval War College, and headquarters of Pacific, Atlantic, and Europe Fleet Commands.

Computer Acquisition Program (P-1 Lines Items 305)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$229,324	\$219,279

The Computer Acquisition Program (CAP) was established to optimize the procurement of general purpose Automated Data Processing Equipment (ADPE) Navy-Wide. The procurement of ADPE through the CAP represents the culmination of several planned and developed ADP systems that are ready for deployment and introduction throughout the Fleet. The work load that is performed directly supports such day-to-day efforts as fleet supply and logistics, maintenance, financial and personnel management, and health management, all of which are currently either performed manually or in part by using old, obsolete, and unreliable data processing support. The automation and upgrade capability to be funded by the CAP would lighten Fleet work load and modernize ADP, directly improving overall Fleet readiness.

Productivity Programs (P-1 Line Items 307-308)

(\$ In Thousands)	
<u>FY 1988</u>	<u>FY 1989</u>
\$9,361	\$16,309

Funds requested for the Productivity Investment Fund and Productivity Enhancing Incentive Fund are used to purchase improved general purpose equipment, tools and procedures. The objective of productivity investment is to apply capital investment in exchange for labor intensive and costly operations in government by investments in modern equipment, methods and labor saving devices. It also realizes a continuing stream of benefits through the reduction of recurring operating costs. Projects involve the replacement of old and outmoded equipment and procedures to reduce inefficiency and maintenance costs. This frequently implants new technology as well as enabling growth in efficiency and the solution of emerging problems in operations and logistics. The technology factor has been credited with at least 40 percent of all productivity growth over the past five decades of domestic experience. Productivity investments directly address the unfunded backlog of compelling investment opportunities existing in the Navy.

BUDGET ACTIVITY 8: SPARES AND REPAIR PARTS  
SUMMARY OF BUDGET PLAN  
(In Thousands)

Budget Plan  
(Amounts for Procurement Actions Programmed)

	FY 1986 ACTUAL	FY 1987 ESTIMATE	FY 1988 ESTIMATE	FY 1989 ESTIMATE	JUSTIFICATION PAGE
SPARES AND REPAIR PARTS INITIAL REPLENISHMENT	205,937 27,088	262,770 27,088	286,631 22,195	306,630 23,461	60 60
TOTAL BUDGET PLAN	233,025	289,858	308,826	330,091	

Budget Activity 8 - Spares and Repair Parts (P-1 Line Items 309-310)

(\$ In Thousands)  
FY 1989 Estimate \$330,091  
FY 1988 Estimate - \$308,826  
FY 1987 Estimate - \$289,858  
FY 1986 Actual - \$233,025

Purpose and Scope of Work

Budget Activity 8 provides for all Other Procurement, Navy (OPN) spares. The funding requested provides for the procurement of spares and repair parts for all equipments requiring support by the Systems Commands prior to transitioning into the Navy Supply System Material and is divided between Initial spares (\$286.6 million in FY 1988 and \$306.6 million in FY 1989) and Replenishment spares (\$22.2 million in FY 1988 and \$23.5 million in FY 1989). The FY 1988 program of \$308.8 million includes the procurement of \$6.8 million of ships initial spares, \$146.3 million of communications and electronics initial spares, \$11.9 million of aviation initial spares, \$113.7 million of ordnance initial spares, \$2.3 million of civil engineering initial spares, \$5.6 million of personnel and command initial spares, \$4.6 million of aviation replenishment spares, and \$17.6 million of ordnance replenishment spares. The FY 1989 program of \$330.1 million includes the procurement of \$7.6 million of ships initial spares, \$166.0 million of communications and electronics initial spares, \$16.0 million of aviation initial spares, \$108.6 million of ordnance initial spares, \$2.4 million of civil engineering initial spares, \$6.0 million of personnel and command initial spares, \$6.6 million of aviation replenishment spares, and \$16.9 million of ordnance replenishment spares.

Comparison of FY 1987 Program Requirements as Reflected  
 In FY 1987 Budget With FY 1987 Program Requirements as  
 Shown in FY 1988/89 Budget

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	Total Program	Program	Increase (+) or Decrease (-)
	Requirements Per FY 1987 Budget	Requirements Per FY 1988/89 Budget	
1. Ships Support Equipment	1,054,366	1,028,579	-25,787
2. Communications & Electronics Equipment	2,031,430	1,996,390	-35,040
3. Aviation Support Equipment	963,514	763,366	-200,148
4. Ordnance Support Equipment	1,259,820	1,169,885	-89,935
5. Civil Engineering Support Equipment	267,260	201,144	-66,116
6. Supply Support Equipment	82,223	69,971	-12,252
7. Personnel & Command Support Equipment	556,295	502,478	-53,817
8. Spares & Repair Parts	323,892	289,858	-34,034
Reimbursable Program	51,400	25,000	-26,400
Total Fiscal Year Program	6,590,200	6,046,671	-543,529

EXPLANATION BY BUDGET ACTIVITY

1. Ships Support Equipment (\$-25.8 Million)

The decrease of \$25.8 million resulted from the following: Specific Congressional reductions to LM-2500 Gas Turbine (\$10.4 million), Steam Propulsion Improvement Program (\$5.3 million), Other Propulsion Equipment (\$.9 million), HM&E Items Under \$2.0 million (\$8.2 million), Small Boats (\$4.0 million), an undistributed Congressional reduction (\$5.8 million), reduction for inflation savings (\$7.1 million), profit policy changes (\$6.2 million) and a proposed appropriation transfer of \$15.1 million. In addition, increases include a specific Congressional increase of \$12.0 million for Sealift Support Equipment, an appropriation transfer in for Production Support Facilities (\$12.4 million) and minor below threshold reprogramings which net to \$12.8 million.

## 2. Communications and Electronic Equipment (\$-35.0 Million)

The decrease of \$35.0 million resulted from an undistributed Congressional reduction of \$13.7 million, inflation savings (\$13.4 million), profit policy changes (\$11.9 million) as well as specific Congressional reductions to the following programs: AN/SQS-53B (\$.3 million), Sonar Switches and Transducers (\$1.2 million), AN/SLQ-25 (NIXIE) (\$1.1 million), AN/SQR-17 Acoustic Processor (\$7.8 million), AN/SQR-18 Towed Array Sonar (\$4.0 million), AN/SQR-19 Towed Array Sonar (\$9.4 million), SURTASS (\$9.4 million), Carrier ASW Module (\$.5 million), C3 Countermeasures (\$30.0 million), Microwave Landing System (\$6.1 million), MK XII AIMS (\$.8 million), Naval Space Surveillance System (\$1.6 million), Shipboard UHF Communications (\$1.2 million), Ship Communications Automation (\$.5 million), JCS Communications Equipment (\$4.3 million), Shore HF Communications (\$.3 million), and TRITAC Crypto (\$2.0 million). Other decreases include a proposed appropriation transfer of \$11.5 million. Additional adjustments resulted from specific Congressional increases of \$16.9 million for USNR ASW Frigate Modernization, \$16.8 million for AN/BLD-1 (Interferometer), \$21.5 million for TSEC/KG-84 and minor below threshold adjustments which net to \$40.8 million.

## 3. Aviation Support Equipment (\$-200.1 Million)

The decrease of \$200.1 million resulted from the following: Specific Congressional reductions to the AN/SSQ-53 DIFAR Sonobuoy (\$2.1 million); the AN/SSQ-77 VLAD Sonobuoy (\$6.4 million), WALLEYE (\$17.5 million); the Zuni rocket (\$18.0 million), Machine Gun Ammunition (\$.5 million), JATOS (\$.6 million), Practice bombs (\$3.7 million), General Purpose Bombs (\$40.0 million), Airborne Expendable Countermeasures (\$9.6 million), ROCKEYE (\$7.6 million), BIGEYE (\$8.5 million), GATOR (\$17.6 million), Airborne Mine Countermeasures (\$12.5 million), and LAMPS MK III Shipboard equipment (\$4.0 million). Congress also disapproved the funding request for Low Cost Sonobuoys (\$26.6 million) and applied general reductions for inflation (\$4.9 million), profit policy changes (\$4.9 million) and an undistributed reduction of \$12.2 million. Minor below threshold reprogramming decreases are also included (\$2.9 million).

## 4. Ordnance Support Equipment (\$-89.9 Million)

The decrease of \$89.9 million resulted from the following: Specific Congressional reductions to 5/54 Gun Ammunition (\$34.1 million), CIWS Ammunition (\$6.5 million), Other Ship Gun Ammunition (\$6.9 million), Point Defense Support Equipment (\$27.3 million), Surface Tomahawk Support Equipment (\$8.9 million), Vertical Launch System (\$32.8 million), MK 116 Fire Control System (\$3.9 million), and Quickstrike (\$10.0 million). Additional reductions resulted from Congressional undistributed reductions (\$8.7 million), inflation adjustments (\$7.7 million), profit policy changes (\$6.7 million), and below threshold adjustments of \$52.4 million. Other adjustments include a Congressional increase of \$116.0 million for MK 92 CORT.

5. Civil Engineering Support Equipment (\$-66.1 Million)

The decrease of \$66.1 million resulted from distribution of \$2.1 for the Congressional undistributed reduction, \$1.4 million for inflation adjustment, profit policy changes (\$1.2 million, as well as specific Congressional reductions to the following programs: Passenger carrying vehicles (\$5.9 million), Trucks (\$19.3 million), Trailers (\$2.4 million) and Fleet Hospitals (\$30.5 million). Additionally, \$5.8 million represents decreases for below threshold adjustments. Other adjustments include an appropriation transfer increase of \$2.5 million for Environmental Restoration.

6. Supply Support Equipment (\$-12.3 Million)

The decrease of \$12.3 million resulted from the following: Specific Congressional reductions to Automated Material handling Systems (\$10.4 million) as well as general Congressional reductions for inflation (\$.6 million) and profit policy changes (\$.5 million). Additional reductions of \$.8 million represent below threshold reprogramings.

7. Personnel and Command Support Equipment (\$-53.8 Million)

The adjustment resulted from specific Congressional reductions for Training Support Equipment (\$2.6 million), Command Support Equipment (\$3.9 million), Intelligence Support Equipment (\$5.3 million), Computer Acquisition Program (\$29.0 million), and the Productivity Investment Fund (\$13.0 million). Additional decreases resulted from Congressional undistributed reductions (\$2.5 million), inflation adjustment (\$3.0 million) and profit policy changes (\$2.9 million). Offsetting increases of \$8.4 million resulted from minor below threshold reprogramings.

9. Spare and Repair Parts (\$-34.0 Million)

The decrease of \$34.0 million resulted from specific Congressional reductions of \$30.2 million, inflation adjustment (\$1.9 million) and profit policy changes (\$1.9 million).

9. Reimbursable Program (\$26.4 Million)

The decrease of \$26.4 million results from a revised estimate of anticipated collections.

Comparison of FY 1987 Financing as Reflected  
In FY 1987 Budget With FY 1987 Financing AS  
Shown in FY 1988 Budget

	Financing Per FY 1987 Budget	Financing Per FY 1988 Budget	Increase (+) or Decrease (-)
Program requirements (Total)	6,590,200	6,046,671	-543,529
Program Requirements (Service Account)	6,538,800	6,021,671	-517,129
Program Requirements (Reimbursable)	51,400	25,000	-26,400
Less:			
Anticipated Reimbursements	51,400	25,000	-26,400
Transferred from other accounts	0	14,900	+14,900
Add:			
Transferred to other accounts	0	26,600	+26,600
Appropriation	6,538,800	6,033,371	-505,429
Transfer to other accounts	0	-26,600	-26,600
Transfer from other accounts	0	14,900	+14,900
Reappropriation	0	12,400	+12,400
Appropriation (Adjusted)	6,538,800	6,034,071	-504,729

EXPLANATION OF CHANGES IN FINANCING

1. Program Requirements (TOTAL).

The decrease reflects Congressional action to the FY 1987 President's Budget Request and proposed intra-appropriation transfers.

2. Program Requirements (Service Account).

The decrease reflects Congressional action to the FY 1987 President's Budget Request and funding proposed for intra-appropriation transfers.

3. Program Requirements (Reimbursable).

The decrease reflects a revised estimate of anticipated collections in FY 1987.

4. Anticipated Reimbursements.

The decrease reflects anticipated collections in FY 1987.

5. Transferred From Other Accounts.

The increase reflects a transfer of funds appropriated in other accounts for Environmental Restoration and Production Support Facilities.

6. Transferred to Other Accounts.

The increase represents a proposed transfer of funds budgeted but no longer required in FY 1987 for purposes originally intended.

7. Appropriation.

The decrease reflects the difference between what was requested in January 1986 for the FY 1987 President's Budget, and the amount that was actually appropriated.

8. Transfer to Other Accounts.

The increase reflects a proposed intra-appropriation transfer of appropriated funds for a classified project.

9. Transfer from Other Accounts.

The increase reflects an intra-appropriation transfer of funds appropriated in other accounts for Environmental Restoration and Production Support Facilities.

10. Reappropriation.

The increase reflects amounts for Product Support Facilities that must undergo Congressional approval prior to transfer.

11. Appropriation (Adjusted).

The decrease reflects the difference between what was requested for direct appropriation in January, 1986 for the FY 1987 President's Budget, and the amount currently requested for direct appropriation availability.

Comparison of FY 1986 Program Requirements as Reflected  
In FY 1987 Budget With FY 1986 Program Requirements as  
Shown in FY 1988 Budget

SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	<u>Financing Per FY 1987 Budget</u>	<u>Financing Per FY 1988 Budget</u>	<u>Increase (+) or Decrease (-)</u>
1. Ships Support Equipment	907,548	816,614	-90,934
2. Communications & Electronics Equipment	2,016,065	1,831,985	-184,080
3. Aviation Support Equipment	1,141,428	1,044,606	-96,820
4. Ordnance Support Equipment	1,241,480	1,152,565	-88,915
5. Civil Engineering Support Equipment	229,390	217,642	-11,748
6. Supply Support Equipment	58,859	55,242	-3,617
7. Personnel & Command Support Equipment	526,482	516,768	-9,714
8. Spares & Repair Parts	260,030	233,025	-27,005
Reimbursable Program	<u>50,000</u>	<u>18,231</u>	<u>-31,769</u>
Total Fiscal Year Program	6,431,282	5,886,680	-544,602

EXPLANATION BY BUDGET ACTIVITY

1. Ships Support Equipment (\$-90.9 Million)

The decrease of \$90.9 million results from a Congressional reduction for prior year inflation estimates (\$9.0 million), rescission of prior year appropriation (\$34.6 million), and reductions for Gramm Rudman Hollings legislation (\$45.2 million) and minor below threshold reprogrammings (\$2.1 million).

2. Communications & Electronic Equipment (\$-184.1 Million)

The decrease of \$184.1 million results from a Congressional reduction for prior year inflation estimates (\$24.3 million), rescission of prior year appropriation (\$76.2 million), reductions for Gramm Rudman Hollings legislation (\$81.4 million) and an intra-appropriation transfer for Contra Aid Support (\$2.2 million).

3. Aviation Support Equipment (\$-96.8 Million)

The decrease of \$96.8 million results from a Congressional reduction for prior year inflation estimates (\$3.8 million), rescission of prior year appropriation (\$20.7 million), reductions for Gramm Rudman Hollings legislation (\$50.8 million), intra-appropriation transfer (\$19.3 million) and minor below threshold reprogramings (\$2.2 million).

4. Ordnance Support Equipment (\$-88.9 Million)

The decrease of \$88.9 million results from a Congressional reduction for prior year inflation estimates (\$9.7 million), rescission of prior year appropriation (\$16.5 million) and reductions for Gramm Rudman Hollings legislation (\$65.3 million). The decrease are partially offset by increases for minor below threshold reprogramings (\$2.6 million).

5. Civilian Engineering Support Equipment (\$-11.7 Million)

The decrease of \$11.7 million results from a Congressional reduction for prior year inflation estimates (\$2.4 million) and reductions for Gramm Rudman Hollings legislation (\$11.4 million). The decreases are partially offset by increases for an intra-appropriation transfer for Environmental Restoration (\$1.5 million) and minor below threshold reprogramings (\$0.6 million).

6. Supply Support Equipment (\$-3.6 Million)

The decrease of \$3.6 million results from a Congressional reduction for prior year inflation estimates (\$.7 million) and reductions for Gramm Rudman Hollings legislation (\$2.9 million).

7. Personnel and Command Support Equipment (\$-9.7 million)

The decrease of \$9.7 million results from a Congressional reduction for prior year inflation estimates (\$6.0 million), reductions for Gramm Rudman Hollings legislation (\$25.2 million) and an intra-appropriation transfer for Contra Aid support (\$3.4 million). The decrease is partially offset by an intra-appropriation transfer increase of \$24.9 million for the ADP Management Fund.

8. Spares and Repair Parts (\$-27.0 Million)

The decrease of \$27.0 million results from a Congressional reduction for prior year inflation estimates (\$11.0 million), reductions for Gramm Rudman Hollings legislation (\$13.7 million) and minor below threshold reprogramings (\$2.3 million).

9. Reimbursable Program (\$-31.8 Million)

The decrease of \$31.8 million results from a revised estimate of collections.

Comparison of FY 1986 Financing As Reflected  
In FY 1987 Budget With FY 1986 Program Requirements as  
Shown in FY 1988 Budget

	<u>Financing Per FY 1987 Budget</u>	<u>Financing Per FY 1988 Budget</u>	<u>Increase (+) or Decrease (-)</u>
Program requirements (Total)	6,431,282	5,886,680	-544,602
Program Requirements (Service account)	6,381,282	5,868,449	-512,833
Program Requirements (Reimbursable)	50,000	18,231	-31,769
Less:			
Anticipated Reimbursements	50,000	18,231	-31,769
Transfer from other accounts	0	26,387	+26,387
Add:			
Unobligated balance available to finance subsequent year budget plans	0	233,569	+233,569
Transfer to other accounts	0	+6,000	+6,000
Appropriation	6,381,282	6,081,637	-299,645
Transfer to other accounts	0	-6,000	-6,000
Transfer from other accounts	0	26,387	+26,387
Appropriation (Adjusted)	6,381,282	6,102,018	-279,264

EXPLANATION OF CHANGES IN FINANCING

1. Program Requirements (TOTAL).

The decrease reflects Congressional reductions in prior years and proposed intra-appropriation transfers.

2. Program Requirements (Service Account).

The decrease in program requirements represents the effect of Congressional reductions and funding proposed for intra-appropriation transfers.

3. Program Requirements (Reimbursable).

The decrease in the reimbursable program reflects actual orders received in FY 1986.

4. Anticipated Reimbursements.

The decrease is based on actual orders received in FY 1986.

5. Transfer from Other Accounts.

The increase represents a transfer of funds into the appropriation supporting Environmental Restoration and the ADP Management Fund.

6. Unobligated Balance Available to Finance Subsequent Year Budget Plans.

The increase represents balances set aside to fund prior year Congressional recissions and amounts proposed for intra-appropriation transfer.

7. Transfer to Other Accounts.

The decrease represents appropriated amounts to be transferred out of the appropriation.

8. Appropriation.

The decrease reflects the difference between what was requested in January, 1986 President's Budget and the current FY 1986 appropriation.

9. Transfer to Other Accounts.

The decrease represents appropriated amounts transferred out of the appropriation as approved by the Congress.

10. Transfer from Other Accounts.

The increase represents a transfer of funds into the appropriation supporting Environmental Restoration and the ADP Management Fund.

11. Appropriation (Adjusted).

The decrease reflects the difference between what was requested for direct appropriation for FY 1986 in the FY 1987 President's Budget, and the amount currently requested.

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