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**DEPARTMENT OF THE NAVY
JUSTIFICATION OF ESTIMATES
FOR FISCAL YEAR 1986**



SUBMITTED TO CONGRESS FEBRUARY 1985

PROCUREMENT

WEAPONS PROCUREMENT, NAVY

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DEPARTMENT OF THE NAVY
WEAPONS PROCUREMENT, NAVY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1986 AND 1987

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WEAPONS PROCUREMENT, NAVY

For construction, procurement, production, modification, and modernization of missiles, torpedoes, other weapons, and related support equipment including spare parts, and accessories therefor; 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 [as required by section 355, Revised Statutes, as amended;] 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: For missile programs, \$3,403,311,000; for the MK-48 torpedo program, \$89,000,000; for the MK-48 ADCAP torpedo program, \$105,600,000; for the MK-46 torpedo program, \$229,700,000; for the MK-60 captor mine program, \$122,000,000; for the MK-30 mobile target program, \$21,300,000; for the MK-38 mini mobile target program, \$2,500,000; for the antisubmarine rocket (ASROC) program, \$25,900,000; for modification of torpedoes, \$32,200,000; for the torpedo support equipment program, \$96,000,000; for the MK-15 close-in weapons system program, \$163,900,000; for the MK-75 gun mount, \$10,900,000; for the MK-19 machine gun program, \$2,000,000; for the 25mm gun mount, \$3,100,000; for small arms and weapons, \$3,500,000; for the modification of guns and gun mounts, \$46,300,000; for the guns and gun mounts support equipment program, \$13,400,000; in all: \$4,353,611,000] \$5,627,900,000 to remain available for obligation until September 30, [1987: Provided, That within the total amount appropriated, the subdivisions within this account shall be reduced by \$17,000,000, as follows: \$2,000,000 for contract support services, and \$15,000,000 for miscellaneous contract savings.] 1983. (10 U.S.C. 5012, 5031, 7201; Department of Defense Appropriation Act, 1985; additional authorizing legislation to be proposed.)

Weapons Procurement, Navy Program and Financing (in thousands of dollars)						
Budget plan (amounts for PROCUREMENT actions programed)			Obligations			
Accounting code	1984 actual	1985 est.	1986 est.	1984 actual	1985 est.	1986 est.
Program by activities						
Direct program						
00 0101 Ballistic missiles	556,500	340,829	685,326	615,766	385,775	654,936
00 0201 Other missiles	2,389,833	3,046,671	3,730,459	2,012,043	3,141,821	3,340,252
00 0301 Torpedoes and related equipment	643,285	724,200	796,045	582,951	679,086	761,352
00 0401 Other weapons	173,731	242,111	247,470	153,886	223,765	241,032
00 0501 Submarine and repair costs			166,801			157,881
00 8101 Total direct program	3,743,178	4,353,611	5,827,900	3,347,650	4,430,247	5,155,285
Reimbursable program						
01 0101	76,782	25,000	30,000	20,019	34,266	97,580
10 0001 Total	3,819,961	4,378,611	5,857,900	3,367,669	4,464,513	5,252,865
Financing						
Offsetting collections from						
11 0001 Federal funds(-)	2,913			42,288		
13 0001 Trust funds(-)	-79,885	-25,000	-30,000	-68,298	-28,000	-30,000
14 0001 Non-Federal sources(-)				178		
17 0001 Recovery of prior year obligations(-)				-3,602		
21 4002 Unobligated balance available, start of year:						
21 4003 For completion of prior year budget plans				-1,620,428	-1,694,853	-1,608,951
21 4007 Available to finance new budget plans	-87,600	-28,400		-87,600	-28,400	
22 4001 Reprogramming from/to prior year budget plans	-50,750					
22 4007 Unobligated balance transferred, net	10,000	28,400		10,000	28,400	
24 4002 Unobligated balance available, end of year:						
24 4003 For completion of prior year budget plans	26,400			1,694,853	1,606,951	2,214,046
25 0002 Available to finance subsequent year budget	126,550			26,400		
25 0003 Unobligated balance lapsing				126,550		
38 0001 Budget authority	3,771,578	4,353,611	5,827,900	3,771,578	4,353,611	5,827,900
Budget authority:						
40 0001 Appropriation	3,725,332	4,353,611	5,627,900	3,725,332	4,353,611	5,627,900
41 0001 Transferred to other accounts(-)	-31,553			-31,553		
43 0001 Appropriation (adjusted)	3,693,779	4,353,611	5,627,900	3,693,779	4,353,611	5,627,900
50 0001 Reappropriation	77,600			77,600		
Relation of obligations to outlays						
71 0001 Obligations incurred, net				3,321,605	4,439,613	5,222,605
72 4001 Unobligated balance, start of year				3,570,269	4,092,875	5,167,888
74 4001 Unobligated balance, end of year				-4,092,875	-5,167,888	-6,455,793
77 0001 Adjustments in expired accounts				13,136		
78 0001 Adjustments in unexpired accounts				-3,602		
90 0001 Outlays				2,806,734	3,384,300	3,934,900

Weapons Procurement, Navy
Object Classification (in thousands of dollars)

Identification code	17-1507-0-1-031	1964 actual	1965 est.	1966 est.
Direct obligations				
12 2001 Transportation of things		1,640	2,143	2,706
Other services				
12 5003 Contracts		16,403	21,430	27,064
12 5004 Other		50,215	64,289	81,193
12 5001 Supplies and materials		329,411	380,274	347,233
13 1001 Equipment		2,949,961	3,782,111	4,697,059
19 9001 Total Direct obligations		3,347,650	4,430,247	5,155,255
Reimbursable obligations:				
22 8001 Supplies and materials		60	251	251
23 1001 Equipment		19,959	34,015	97,299
29 9001 Total Reimbursable obligations		20,019	34,266	97,550
99 9901 Total obligations		3,367,669	4,464,513	5,252,805

Missile Procurement, Navy		FISCAL YEAR 1982	
Program and Financing (in Thousands of dollars)		Obligations	
Budget Plan (amounts for PROCUREMENT actions originated)		1984 actual	1985 est.
Classification code	17-1507-0-1-051	1984 actual	1985 est.
Program of activities			
Direct program			
00 0101	Ballistic missile	135,705	
00 0201	Other missile	182,382	
00 0301	Torpedoes and related equipment	19,480	
00 0401	Other weapons	9,830	
00 0101	Total direct program	327,377	
01 0101	Reimbursement program	4,844	
10 0001	Total	332,221	
Financing			
Offsetting collections from:			
11 0001	Federal funds(-)	33,874	
13 0001	Trust funds(-)	-2,422	
17 0001	Recovery of prior year obligations(-)	-2,630	
21 4002	Unobligated balance available, start of year:		
21 4007	For completion of prior year budget obligations	-414,636	
25 0001	Reprogramming from/to prior year budget obligations		
	Unobligated balance leaving	-50,750	
39 0001	Budget authority	50,750	

Weapons Procurement, Navy		Program and Financing (in Thousands of dollars)		FISCAL YEAR 1983	
		Budget Plan (accounts for PROCUREMENT actions programmed)		Obligations	
Identification code	17-1807-0-1-081	1984 actual	1985 est.	1984 actual	1985 est.
Program by activities:					
Direct program:					
00.0101	Ballistic missiles			30,442	108,180
00.0201	Other missiles			428,030	315,646
00.0301	Torpedoes and related equipment			63,026	27,356
00.0401	Other weapons			38,611	2,608
00.8101	Total direct program			830,111	453,670
01.0101	Reimbursable program			14,343	12,216
10.0001	Total			844,454	465,886
Financing:					
Effecting collections from:					
11.0001	Federal fund(-)			6,468	
13.0001	Trust fund(-)			-9,022	
14.0001	Non-Federal sources(-)			176	
17.0001	Recovery of prior year obligation(-)			-1,172	
21.4002	Unobligated balance available, start of year:				
21.4003	For completion of prior year budget plans	-87,800		-1,105,790	-466,666
22.4001	Available to finance new budget plans	87,800		-87,800	
22.4001	Unobligated balance transferred, net			87,800	
24.4002	Unobligated balance available, end of year:				
24.4002	For completion of prior year budget plans			465,666	
38.0001	Budget authority				

FISCAL YEAR 1964

Identification code	17-1507-0-1-081	Budget plan (amounts for PROCUREMENT actions programmed)				Obligations	
		1984 actual	1985 est.	1986 est.	1984 actual	1985 est.	1986 est.
Program by activities							
Direct program							
00 0101	Ballistic missiles	552,500			449,641	23,482	77,377
00 0201	Other missiles	2,369,633			1,251,631	759,112	256,600
00 0301	Torpedoes and related equipment	643,245			480,463	84,016	68,784
00 0401	Other weapons	173,781			103,427	46,937	18,417
00 8101	Total direct program	3,743,178			2,390,162	929,049	423,488
01 0101	Reimbursable program	76,782			832	4,050	71,900
10 0001	Total	3,819,961			2,390,994	933,599	495,388
Financing:							
Sparefunding collections from:							
11 0001	Federal funds(-)	2,813			2,513		
13 0001	Trust funds(-)	-78,685			-78,685		
Unobligated balance available, start of year:							
21 4002	For completion of prior year budget plans						
21 4003	Available to finance new budget plans		-28,400			-28,400	
22 4001	Unobligated balance transferred, net	-77,600	28,400		-77,600	23,430	
Unobligated balance available, end of year:							
24 4002	For completion of prior year budget plans	28,400			1,426,987	495,366	
24 4003	Available to finance subsequent year budget	77,600			28,400		
25 0001	Unobligated balance totaling				77,600		
79 0001	Budget authority	3,771,579			3,771,579		
Budget authority:							
40 0001	Appropriation	3,725,332			3,725,332		
41 0001	Transferred to other accounts(-)	-31,553			-31,553		
43 0001	Appropriation (adjusted)	3,693,778			3,693,778		
50 0001	Reappropriation	77,600			77,600		

Weapons Procurement, Navy Program and Financing (in thousands of dollars)				FISCAL YEAR 1995	
Budget Plan amounts for PROCUREMENT actions programmed)				Obligations	
Identification code	17-1507-0-1-031	1984 actual	1985 est.	1984 actual	1985 est.
Program by activities:					
Direct program:					
00.0101	Ballistic missiles	340,928		249,133	56,830
00.0201	Other missiles	3,048,871		2,065,883	572,320
00.0301	Torpedoes and related equipment	724,200		557,712	125,488
00.0401	Other weapons	242,111		174,320	39,222
00.9101	Total direct program	4,353,811		3,047,028	792,867
01.0101	Reimbursable program	25,000		19,000	4,080
10.0001	Total	4,378,811		3,066,028	796,907
Financing:					
Effecting collections from:					
13.0001	Trust fund-1	-25,000		-25,000	
21.4002	Unobligated balance available, start of year:				-1,313,583
24.4002	Unobligated balance of prior year budget plans				
24.4002	Unobligated balance available, end of year:				
24.4002	Unobligated balance of prior year budget plans				
40.0001	Budget authority (appropriation)	4,353,811		1,313,583	516,879
				4,363,811	

Weapons Procurement, Navy		Program and Financing (in thousands of dollars)		FISCAL YEAR 1966	
		Budget Plan (amounts for PROCUREMENT actions programmed)		Obligations	
Identification code	17-1507-01-051	1964 actual	1965 est.	1964 actual	1965 est.
Program by activities:					
Direct program:					
00 0101	Ballistic missiles	985,328			621,731
00 0201	Other missiles	3,730,458			2,509,042
00 0301	Guides and related equipment	798,045			567,083
00 0401	Other weapons	247,473			183,393
00 0601	Stores and repair parts	186,601			157,881
00 8101	Total direct program	5,527,900			3,838,930
01 0101	Reimbursable program	30,000			21,600
10 0001	Total	5,557,900			3,860,530
Financing:					
Offsetting collections from:					
13 0001	Trust funds--)	-30,000			-30,000
24 4002	Unobligated balance available, and of year: For completion of prior year budget plans				1,697,370
40 0001	Budget authority (Appropriation)	5,927,900			6,927,900

Appropriation Introduction
(In Thousands of Dollars)

	FY 1986 Estimate	FY 1987 Estimate
Appropriation	\$5,627,900	\$7,974,129
Total Direct Obligations	5,155,255	0
Total Direct Budget Plan	5,627,900	7,974,129

The Weapons Procurement, Navy appropriation finances the procurement of ballistic, strategic and tactical missiles, torpedoes, mines, guns and support equipment for Naval, Coast Guard and Marine Aviation forces. Support equipment includes: equipment for modification of in-service missiles, torpedoes, mines, guns, and gun mounts; serial and underwater targets used in training exercises and evaluation; hardware for Navy Navigation and Defense Meteorological satellite programs; spare parts; ground support and training equipment; and industrial facilities and tools required for the production and maintenance of missiles, torpedoes, mines and guns.

Fiscal Year 1986 and 1987 Highlights

The budget programs for the Weapons Procurement, Navy appropriation total \$5,627.9M in FY 1986 and \$7,974.1M in FY 1987. Significant features of these requests are:

- (a) A TRIDENT I (C-4) missile request of \$66.2M in FY 1986 and \$46.8M in FY 1987 for production support through final missile delivery in FY 1986 and continuing requirements for resupply systems, instrumentation, and ongoing support. Initial procurement funding for the follow-on TRIDENT II (D-5) missile of \$312.7M in FY 1986 and \$1,521.0M for 27 missiles in FY 1987 plus advance procurement funding of \$262.3M in FY 1986 and \$342.3M in FY 1987 to support future TRIDENT II missile procurements.
- (b) \$37.1M in FY 1986 and \$34.7M in FY 1987 for the POSEIDON program, ballistic missile modifications, support equipment and facilities, and the Navigational Satellite program.
- (c) A TOMAHAWK Cruise Missiles request of \$670.2M for 249 missiles in FY 1986 and \$786.7M for 330 missiles in FY 1987 plus \$64.6M in FY 1986 and \$71.1M in FY 1987 for advance procurement to support the FY 1987 and FY 1988 procurements, respectively.

(d) Other Tactical Missile procurements including a FY 1986 request of \$359.2M for 1,872 SPARROWS, \$85.8M for 1,220 SIDEWINDERS, \$343.6M for 265 PHOENIXs, \$314.9M for 395 HARPOONS, \$258.0M for 904 HARMS, \$194.3M for 1,500 LASER MAVERICKs, \$55.1M for 1,304 HELLPIREs, \$44.7M for 117 RAMs, \$27.8M for 195 Imaging Infrared (IIR) MAVERICKs (initial production), \$848.3M for 1,316 STANDARDS, and \$20.5M for 168 SIDEARMS (initial production), plus \$65.3M for advance procurement for the SPARROW, SIDEWINDER, PHOENIX, and SM-1 MR to support the FY 1987 procurements; and a FY 1987 request which accelerates the Tactical Missile procurement over the FY 1986 level by procuring 1,910 SPARROWS for \$368.1M, 1,158 SIDEWINDERS for \$89.0M, 420 PHOENIXs for \$479.4M, 153 HARPOONS for \$164.9M, 1,177 HARMS for \$297.7M, 1,800 LASER MAVERICKs for \$209.8M, 1,384 HELLPIREs for \$57.0M, 419 IIR MAVERICKs for \$54.9M, 400 RAMs for \$112.7M, 1,800 STANDARDS for \$1,026.9M, and 205 SIDEARMS for \$13.9M plus \$40.9M for advance procurement to support the FY 1988 PHOENIX procurements.

(e) \$378.1M in FY 1986 and \$541.7M in FY 1987 for Aerial Targets, Fleet Satellite Communications, Defense Meteorological Satellite Program, Drone and Decoys, missile modifications, and other items required to support the tactical missile procurements.

(f) An Anti-Submarine Warfare program consisting of a request of \$105.5M for 500 MK-46 Torpedoes in FY 1986 and \$83.0M for 500 MK-46 Torpedoes in FY 1987, as well as advance procurement of \$23.6M in FY 1986 and \$23.8M in FY 1987 in support of the multi-year procurement of this weapon; \$417.4M for 123 MK-48 ADCAP Torpedoes in FY 1986 and \$622.6M for 280 MK-48 ADCAP Torpedoes in FY 1987; \$20.6M for 6 MK-30 Mobile Targets in FY 1986; \$117.0M for 84 MK-50 Advanced Lightweight Torpedoes in FY 1987 (initial production); \$15.5M for 2,584 MK-39 Expendable Mobile ASW Training Targets in FY 1987 (initial production); and \$71.1M for 250 Vertical Launched ASROCs in FY 1987 (initial production). \$230.9M in FY 1986 and \$287.8M in FY 1987 for MK-38 Mini Mobile Targets, ASROCs, initial modification for MK-67 Mobile Mines, and related torpedo and mine modification programs, and torpedo support.

(g) \$247.5M in FY 1986 and \$248.8M in FY 1987 for guns, gun mounts and related support equipment which primarily funds the Close-In-Weapons Systems procurement of 39 systems in FY 1986 for \$150.1M and 32 in FY 1987 for \$132.9M.

(h) \$166.6M in FY 1986 and \$286.4M in FY 1987 for the procurement of spares and repair parts for all equipments, weapon systems, and support equipment procured under the Weapons Procurement. Navy appropriation which require support by the Hardware Systems Commands prior to the Navy Supply System Materiel Support Date.

Financing

The FY 1986 plan of \$5,627.9M and the FY 1987 plan of \$7,974.1M for this appropriation are to be financed by new obligational authority.

Summary of Requirements
(In Thousands of Dollars)

	FY 1984 Actual	FY 1985 Estimate	FY 1986 Estimate
Ballistic Missiles	\$ 556,500	\$ 340,629	\$ 685,326
Other Missiles	2,369,633	3,046,671	3,730,458
Torpedoes and Related Equipment	643,265	724,200	798,045
Other Weapons	173,781	242,111	247,470
Spares and Repair Parts	0	0	166,601
TOTAL Direct Program	\$3,743,179	\$4,353,611	\$5,627,900
Reimbursable Program	76,782	25,000	30,000
TOTAL Program Requirements	\$3,819,961	\$4,378,611	\$5,657,900
Less: Portion of program to be obligated in subsequent fiscal year	1,428,967	1,313,583	1,697,370
Plus: Obligations incurred against prior year program funds	976,675	1,399,485	1,292,275
TOTAL Obligations	\$3,367,669	\$4,464,513	\$5,252,805

Summary of Requirements
(In Thousands of Dollars)

	<u>FY 1987 Estimate</u>
1. Ballistic Missiles	\$1,944,815
2. Other Missiles	4,341,808
3. Torpedoes and Related Equipment	1,152,238
4. Other Weapons	243,843
5. Spares and Repair Parts	286,425
TOTAL Direct Program	\$7,974,129

BUDGET ACTIVITY 1: BALLISTIC MISSILES

(\$ in thousands)
 FY 1987 Estimate - \$1,944,815
 FY 1986 Estimate - \$ 685,326
 FY 1985 Estimate - \$ 340,629
 FY 1984 Actuals - \$ 556,500

Purpose and Scope of Work: These funds provide for the procurement of fleet ballistic missiles, ancillary checkout and test equipment, missile modifications, and support equipment and facilities required to outfit and support the submarines assigned to the seabased strategic deterrent forces.

Justification of Funds: Of the \$685.3 million requested in FY 1986, \$653.2 million is for ballistic missiles, \$15.0 million is for modification of missiles, and \$17.1 million is for support equipment and facilities.

Of the \$1,944.8 million requested in FY 1987, \$1,914.8 million is for ballistic missiles, \$10.5 million is for modification of missiles, and \$19.5 million is for support equipment and facilities.

BALLISTIC MISSILES

(\$ in thousands)
 FY 1987 Estimate - \$1,914,803
 FY 1986 Estimate - \$ 653,213
 FY 1985 Estimate - \$ 309,510
 FY 1984 Actuals - \$ 530,000

Of the \$653.2 million requested for ballistic missiles in FY 1986, \$5.0 million is for POSEIDON, \$66.2 million is for TRIDENT I, \$312.7 million is for TRIDENT II, and \$269.3 million is for TRIDENT II Advance Procurement.

Of the \$1,914.8 million requested for ballistic missiles in FY 1987, \$4.7 million is for POSEIDON, \$46.8 million is for TRIDENT I, \$1,521.0 million is for TRIDENT II, and \$342.3 million is for TRIDENT II Advance Procurement.

POSEIDON Missile

(\$ in thousands)		
	FY 1986	FY 1987
Procurement Cost	Qty -	Qty -
	Amount \$5,001	Amount \$4,701

To maintain the effectiveness of the Fleet Ballistic Missile System against postulated enemy defensive capabilities of the next decade, the Navy was directed in FY 1966 to develop and deploy the POSEIDON weapon system. The principal advantage of the POSEIDON over its predecessor, the POLARIS, is its adaptability to overcome a broad spectrum of defenses, as they may materialize from Soviet Anti-Submarine Warfare (ASW) and Anti-Ballistic Missile (ABM) development programs. POSEIDON missiles are no longer being procured; however, funding is required to support missile tests which will continue throughout the operational lives of the weapons. This testing is necessary in order to continue to evaluate the readiness of deployed missiles in accordance with Joint Chiefs of Staff test criteria.

The POSEIDON procurement requests of \$5.0 million in FY 1986 and \$4.7 million in FY 1987 are for special purpose flight test instrumentation and reentry system components for use in the C-3 flight test program, and for ongoing weapon system support. Failure to provide the funding requested would force curtailment of the Demonstration and Shakedown Operations (DASO)/Follow-on Operational Test (FOT) program, thereby weakening significantly the ability to determine with confidence the flight reliability of the deployed POSEIDON force.

TRIDENT I Missile

(\$ in thousands)		
	FY 1986	FY 1987
Procurement Cost	Qty -	Qty -
	Amount \$66,226	Amount \$46,814

The TRIDENT mission is to provide an undersea missile system in order to ensure that the U.S. continues to maintain a credible deterrent independent of foreseeable threats in the 1990's and beyond. To accomplish this mission, the TRIDENT I missile was developed to support two separate systems. The TRIDENT system is comprised of Continental United States based nuclear powered submarines equipped with long range TRIDENT I strategic missiles and associated direct support shore facilities. The TRIDENT I Backfit system provides TRIDENT I missiles for backfit into existing POSEIDON submarines which gives these submarines a greater range of patrol in order to insure their survivability in the event of unforeseeable enemy breakthroughs in ASW capabilities.

Within the current TRIDENT I missile program of 570 missiles procured between FY 1977 and FY 1984, missile production deliveries have been scheduled at quantities necessary to maintain quality and a smooth production rate and to provide for submarine requirements, replacement of missiles returned from the fleet for repair and surveillance, and expenditures during demonstration firings and operational tests. Based on current program guidance, TRIDENT I missile procurements will support the ultimate deployment of eight TRIDENT submarines, twelve Backfit submarines and additional missiles to continue the Fleet Return and Evaluation Program (FREP) and DASO/FOT programs. Although FY 1984 marked the final year of TRIDENT I missile procurement, funding is required in FY 1985 and subsequent years to support missile tests which will continue throughout the operational lives of the weapons. This testing is essential in order to continue to evaluate the readiness of deployed missiles in accordance with Joint Chiefs of Staff test criteria.

The FY 1986 and FY 1987 TRIDENT I missile requests of \$66.2 million and \$46.8 million respectively will provide for the procurement of special purpose flight test instrumentation and reentry system components for use in the flight test program, and for ongoing weapons system support. Failure to provide the funding requested would necessitate a further reduction to an already severely constrained DASO/FOT program and weaken significantly the ability to determine with confidence the flight reliability of the deployed TRIDENT I force.

TRIDENT II Missile

(\$ in thousands)			
		FY 1986	FY 1987
		Qty	Amount
Procurement Cost		-	\$312,686
			27
			\$1,520,988

The TRIDENT II missile will be carried on TRIDENT Fleet Ballistic Missile Submarines, ensuring that the United States will continue to maintain a highly survivable strategic deterrent for the 1990's and beyond. Deployment of the TRIDENT II missile will (1) enhance Fleet Ballistic Missile Submarine survivability by increasing Sea Launched Ballistic Missile range at full payload to exploit the total patrol area available to the TRIDENT submarine, (2) minimize total weapon system costs by increasing Sea Launched Ballistic Missile payload to the level permitted by the size of the TRIDENT submarine launch tube, thereby allowing mission capability to be achieved with a lesser number of submarines, (3) balance the Triad by adding efficient hard target kill capability to the Sea Launched Ballistic Missile, and (4) enhance essential equivalence with the Soviets in accordance with perceived needs to increase our warhead inventory, throw weight, and accuracy in the presence of increasing Soviet capabilities and force levels.

Funding in this line is required to support the procurement of an all new TRIDENT II missile, Initial production of which commences in FY 1987 and to which the following key program milestones apply:

- TRIDENT II missile Initial Operating Capability (IOC) - December 1989
- First Performance Evaluation Missile (PEM) flight test - March 1989
- Start PEM missile processing at Strategic Weapons Facility, Atlantic (SWFLANT) - July 1988
- SWFLANT installation, test, checkout and equipment/facility integration beginning in FY 1987
- Equipment procurements in FY 1985 through FY 1987 based on leadtime away requirements

In FY 1986 \$312.7 million is requested for production planning and activation at SWFLANT located at Kings Bay, Georgia; for initial equipment outfitting of buildings at SWFLANT essential to establishing a TRIDENT II missile processing capability; MK-6 Guidance System tooling and test equipment at contractors' facilities; and procurement of MK-4 and MK-5 Reentry Systems. The FY 1987 funding request of \$1,521.0 million will support the initial production of 27 TRIDENT II missiles and associated guidance and instrumentation systems; procurement of MK-4 and MK-5 Reentry Systems; guidance system tooling and test equipment; and additional SWFLANT production planning, activation, and initial equipment outfitting.

TRIDENT II Missile Advance Procurement

	(\$ in thousands)	
	FY 1986	FY 1987
	Amount	Amount
Advance Procurement Cost	\$269,300	\$342,300

Funding in this line item is required to support the advance procurement of various components of the TRIDENT II missile, guidance systems, and reentry systems which are required to support future TRIDENT II missile procurements. Total advance procurement requirements may be subdivided between traditional long-lead subcomponent requirements and procurements which must be accomplished in advance of the using end item to ensure production continuity. These latter production continuity procurements encompass a broad range of component materials which must be produced at minimum, uninterrupted rates on production lines as well as life-of-type or one-time quantity buys of materials or components required to support the total planned program. The quality and homogeneity obtained by these means are essential to assure the consistent reliability of the missiles to be procured for the TRIDENT II program. The sum of production continuity quantities of these materials and those quantities procured for missiles fully funded in the procurement line item is determined by production rate and quality control considerations and forms the basis for cost estimates which are highly dependent on rate quantity.

The FY 1986 request of \$269.3 million will provide for procurement of both long-lead and production continuity commodities and material in support of MK-4 and MK-5 reentry systems production and for long-lead and production continuity procurements in support of TRIDENT II missile, MK-6 guidance systems, and special purpose instrumentation production which commences in FY 1987. The FY 1987 request of \$342.3 million will provide for additional long-lead and production continuity procurements required to support future production of missiles, guidance systems, reentry systems, and special purpose instrumentation. These funds are essential to achieving the December 1989 IOC for the TRIDENT II Strategic Weapons System.

MODIFICATION OF MISSILES

(\$ in thousands)
FY 1987 Estimate - \$10,506
FY 1986 Estimate - \$15,006
FY 1985 Estimate - \$10,294
FY 1984 Actuals - \$ 9,600

Requirements for POSEIDON missile alterations (SPALTS) are determined only after thorough investigation has established the need for a change in system or equipment configuration, the total estimated cost and the impact of the proposed change have been defined, and the proposal has been subjected to intense screening to determine a positive advantage to the system. POSEIDON SPALTS are funded only when correction of a known deficiency is required, a component is no longer procurable in its original configuration, or it is necessary to accept a substitute part of an existing subassembly.

POSEIDON Modifications

	(\$ in thousands)	
	FY 1986	FY 1987
	Amount	Amount
Procurement Cost	\$15,006	\$10,506

The FY 1986 and FY 1987 requests provide funding in support of the Thrust Vector Control (TVC) Gas Generator SPALT, the First-Stage Motor Nozzle SPALT, and the Post Boost Control System (PBCS) Gas Generator SPALT. Failure to provide the funding requested would increase the potential risk of deterioration in POSEIDON weapon system performance reliability.

SUPPORT EQUIPMENT AND FACILITIES

(\$ in thousands)
FY 1987 Estimate - \$19,506
FY 1986 Estimate - \$17,107
FY 1985 Estimate - \$20,825
FY 1984 Actuals - \$16,900

The support equipment and facilities requests provide for the procurement of missile industrial facilities and the launch and satellite hardware and associated support necessary to maintain the Navy Navigation Satellite System.

Missile Industrial Facilities

	(\$ in thousands)	
	FY 1986	FY 1987
	Amount	Amount
Procurement Cost	\$ 4,501	\$ 4,401

Funding for Missile Industrial Facilities provides for capital rehabilitation of civil works and equipment, equipment and civil works improvements, emergency repair and modification to production equipment and accessories at the Navy-owned Naval Industrial Reserve Ordnance Plant (NIROP) at Sunnyvale, California; for capital rehabilitation and civil works improvements at the NIROP at Bacchus, Utah; and for civil works improvements at Air Force Plant 78 near Brigham City, Utah.

Capital rehabilitation and improvement requirements in FY 1986 and FY 1987 include: Non-severable civil works additions and modifications to Navy and Air Force owned buildings; improvements to building equipments that are generated as a result of safety and security requirements; replacement and rehabilitation of aging plant equipment items; rehabilitation and environmental equipment to control the discharge of pollutants into the atmosphere; and fire protection equipment to support more efficient production and test operations.

Astronautics

	(\$ in thousands)								
	<table><tr><td>FY 1986</td><td>FY 1987</td></tr><tr><td><u>Amount</u></td><td><u>Amount</u></td></tr><tr><td>Procurement Cost</td><td>\$12,606</td></tr><tr><td></td><td>\$15,105</td></tr></table>	FY 1986	FY 1987	<u>Amount</u>	<u>Amount</u>	Procurement Cost	\$12,606		\$15,105
FY 1986	FY 1987								
<u>Amount</u>	<u>Amount</u>								
Procurement Cost	\$12,606								
	\$15,105								

The Navy Navigation Satellite System or TRANSIT is a world-wide, all weather system which enables ships to determine their precise positions from data collected during a single pass of an orbiting satellite. This system was developed to meet the requirements of Fleet Ballistic Missile Submarines for precise positional information. In recent years other naval vessels as well as some commercial ships have acquired the necessary receiving sets to utilize the system as a navigational aid.

To maintain an adequate constellation of satellites in orbit, the Weapons Procurement, Navy appropriation provides for the procurement of satellites, launch vehicles and sustaining support costs. The FY 1986 and FY 1987 budget requests provide funding for launch and satellite support to maintain the current operational constellation and for storage and testing of the existing OSCAR satellite inventory. The current schedule calls for the first dual OSCAR launch in FY 1985, the second dual OSCAR launch in FY 1987, and launch of the third and final NOVA satellite in FY 1987. Current requirements are based on maintaining the SCOUT launch vehicle as the primary launch booster for the TRANSIT System.

Budget Activity 2: Other Missiles

(\$ in Thousands)
FY 1987 Estimate - \$ 4,341,808
FY 1986 Estimate - \$ 3,730,458
FY 1985 Estimate - \$ 3,046,671
FY 1984 Actual - \$ 2,369,623

Purpose and Scope of Work

Funds budgeted under this activity finance the procurement and modification of strategic and tactical guided missiles, and aerial targets. In addition, funds provide for weapons industrial facilities and for the support of satellites, launches, and associated equipment for the Fleet Satellite Communication System.

Guided missiles are procured for operational inventory requirements to meet combat sustainability objectives, combat usage, quality assurance testing, and training purposes. Aerial targets are required to support training programs and to permit evaluation of missile performance. Procurement funds provide for (1) the components that comprise the end-items, such as guidance, control, motors, warheads, and fuzes, (2) effort and hardware associated with the production and assembly of these items, such as production engineering, production proofing, tools and test equipment, and (3) special handling and test equipment, training materials and other specialized items required for operational Fleet support of the item.

Justification of Funds

The Chief of Naval Operations establishes operational and training objectives consistent with the Navy's assigned role in national defense. These objectives are translated into annual procurement programs in accordance with logistics guidance set forth by the Secretary of Defense, taking into account available fiscal resources. The resultant procurement plan is designed to maintain an effective mix of weapons in the combat inventory, and to provide weapons and targets in support of training, evaluation, and pipeline requirements. In developing the plan, the Navy considers production feasibility and assures that missile deliveries are compatible with aircraft and ship testing, production, development, and deployment schedules.

The following paragraphs provide justification for the Other Missiles procurement programs. Initial spare parts amounts are included for information under each missile but are separately addressed in the spares and repair parts category of the Budget Activity 5 justification.

Strategic Missiles

(\$ in Thousands)

FY 1987 Estimate - \$ 859,756
FY 1986 Estimate - \$ 734,804
FY 1985 Estimate - \$ 549,600
FY 1984 Actual - \$ 323,700

BCN-109 TOMAHAWK Cruise Missiles

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	249	\$670,204	330	\$788,656
Advance Procurement		64,500		71,100
Initial Spares		45,221		70,156
Procurement Cost		\$780,025		\$929,912

The TOMAHAWK Cruise Missiles provides an attack capability against targets at sea (anti-ship Tomahawk) and on land (land-attack Tomahawk). TOMAHAWK is capable of being launched from aircraft, ships, submarines, and ground launchers. The Cruise missiles can be fitted with either a conventional high explosive or nuclear warhead, and is propelled in flight by a small turbofan engine. The FY 1986 request of \$734.8 million, which includes \$64.6 million of advance procurement for FY 1987, will procure 97 anti-ship and 152 land attack missiles. The Tomahawk missiles is designed to be deployed in submarines and surface ships in a variety of launchers.

Tactical Missiles

(\$ in Thousands)

FY 1987 Estimate - \$3,096,624
FY 1986 Estimate - \$2,764,822
FY 1985 Estimate - \$2,233,311
FY 1984 Actual - \$1,774,933

Funds budgeted under this category finance the procurement of air-, surface-, and submarine-launched missiles and aerial targets.

AIM/RIM-7F/M SPARROW III Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	1,872	\$359,200	1,910	\$368,055
Advance Procurement		9,500		-
Initial Spares		5,067		9,855
Procurement Cost		\$373,767		\$377,910

SPARROW is both a supersonic, all-weather, all-aspect-capable, air-to-air missile employed by F-4, F-14, F-15, and P-18 aircraft against high performance aircraft and a surface-to-air missile employed with the NATO SEASPARROW system on various Naval vessels. The monopulse seeker (AIM-7M), which has improved electronic countermeasures, fuzing and lock down/clutter capability, was introduced into the FY 1980 procurement. The RIM-7M for surface launch will eventually replace both the RIM-7E and RIM-7H. Initial procurement of 80 RIM-7M's was in FY 1981. The \$359.2 million requested in FY 1986 provides for the procurement of 1,492 AIM-7M and 380 RIM-7M missiles at a cost of \$155.4 million and equipment to support SPARROW missiles already in the fleet at a cost of \$3.8 million. An additional \$9.5 million is requested to provide advance procurement of key guidance and control section parts needed to provide production surge capability. The FY 1986 AIM/RIM-7M missiles will be produced by Raytheon and General Dynamics. The AIM-7E/P support funds will finance training material, depot checkout equipment and publications required to maintain the operational readiness and to support the surface-to-air version of the AIM-7E (SEASPARROW). The requested procurement of 1,872 missiles in FY 1986 is needed to build up the operational inventory to meet combat sustainability objectives and to replace missiles in inventory, as earlier, less capable versions of SPARROW are expended in training.

AIM-9L/M SIDEWINDER Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	1,220	\$85,800	1,168	\$89,022
Advance Procurement		8,000		-
Initial Spares		846		4,292
Procurement Cost		\$94,646		\$94,314

The SIDEWINDER AIM-9L/M is a Joint Navy and Air Force (USN/USAF) short-range, air-to-air, infrared (IR) dogfight missile employed by both fighter and attack aircraft. The all-aspect launch capability is a significant improvement over previous SIDEWINDER versions and greatly increases the firing envelope. The AIM-9M, a product improvement of the AIM-9L, provides for improved counter-countermeasures capability and an

improved ability to acquire targets in a high IR clutter background. The procurement of 2,960 guidance units (1,220 for Navy, 940 for Navy modification, and 800 for Air Force) in FY 1986 will be competed between the two mobilization base sources, Ford Aerospace and Raytheon, with the winner being awarded the larger quantity. The \$85.8 million requested in FY 1986 will procure 1,220 missiles that are required to continue inventory build up of the AIM-9N version, which will be the first-line short-range air-defense missile through the 1990's. An additional \$8.0 million is requested for advance procurement of key guidance and control section parts required to provide production surge capability. Failure to procure these missiles will seriously delay attainment of inventory requirements.

AIM-54A/C PHOENIX Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	265	\$343,600	420	\$479,405
Advance Procurement		38,300		40,900
Initial Spares		11,570		22,463
Procurement Cost		\$393,470		\$542,768

The PHOENIX missile system is comprised of a long-range airborne weapon control system (AN/AWG-9) with multiple target-handling capabilities and long-range missiles utilizing semi-active mid-course and active terminal guidance. Its mission is to kill multiple air targets with conventional warheads. Six such missiles can be carried aboard the F-14 aircraft. Near simultaneous launch is possible against six targets in an all-weather and heavy-jamming environment. The improved Phoenix missile, the AIM-54C, provides improved lethality, stream raid discrimination, electronic counter measure (ECM) performance, high and low altitude performance and improved reliability and maintainability. As a result of these improvements, the missile has greater capability to counter the projected MIG-25 FOXBAT aircraft and cruise missile threats. The PHOENIX does not replace any other missile. The \$381.9 million requested in FY 1986, which includes \$38.3 million of advance procurement for FY 1987, will finance the procurement of 265 PHOENIX missiles configured in the improved AIM-54C version including 10 qualification missiles from a second source contractor. Competitive procurement of the PHOENIX missile is scheduled to begin in FY 1989. These missiles are needed to continue to increase the number of operational PHOENIX missiles in the active inventory, and to offset the loss of older AIM-54A missiles that are expended or suffer irreparable failure.

AGM/RGM/UCM-84A HARPOON Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	395	\$314,873	153	\$184,915
Initial Spares		23,739		29,160
Procurement Cost		\$338,612		\$214,070

The HARPOON is an air-, surface-, and submarine-launched anti-ship cruise missile. It uses an active-radar seeker, radar altimeter, and altitude references assembly in conjunction with a small digital computer for missile guidance and control. It is propelled by a turbo-jet sustainer engine augmented by a solid booster for ship and submarine launch. The missile has a standard 13.5 inch diameter with a weight of 1,100 pounds for air launch and 1,500 pounds for ship launch. It is compatible with the TARTAR, TERRIER, and ASROC ship launchers as well as with aircraft and submarine launch systems. The missile is planned for use aboard the FV-1052, DDC and DD-963, CG, CGN, FBM, BA, and FFG class ships, the P-3, S-3, A-6, and F/A-18 aircraft and nuclear attack submarines. The 1986 request of \$314.9 million provides for procurement of 395 HARPOON missiles (183 air-launch, 187 surface-launch, and 25 submarine launch missiles). These weapons are requested to ensure adequate availability of weapons as new platforms are made operational, and to offset missile expenditures due to training and test requirements.

ACM-88A HARM Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amc	Qty	Amc
Procurement	904	\$258,000	1,177	\$297,654
Initial Spares		8,740		15,424
Procurement Cost		\$266,740		\$313,078

The High Speed Anti-Radiation Missile (HARM) is a joint Navy and Air Force air-to-surface missile designed to suppress or destroy land- and sea-based radars supporting enemy air defense systems. HARM is a design evolution of anti-radiation missiles (ADM) such as SHRIKE and STANDARD ARM, and is planned to replace both missiles in the Navy inventory. HARM characteristics include: high speed, large-launch envelope, wide-band-frequency coverage in a single head, high sensitivity and compatibility with various naval aircraft. The HARM has evolved from known and predicted deficiencies in SHRIKE and STANDARD ARM missiles in defeating current and future enemy air defense systems. Initial procurement commenced in FY 1981. The FY 1986 request of \$258.0 million will procure 904 HARM missiles for the Navy. Failure to provide the requested number of missiles will seriously degrade the Navy's ability to counter the threat to aircraft and aircrews posed by enemy air defense systems. This procurement in FY 1986 will significantly increase the number of missiles in the inventory.

STANDARD MISSILE MEDIUM RANGE (MR)(SM-1 BLOCK VI)

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	-	\$26,438	300	\$134,045
Advance Procurement		9,500		-
Initial Spares		1,006		1,885
Procurement Cost		\$36,944		\$135,930

The STANDARD MR (SM-1) is a supersonic, medium-range, tactical missile utilizing semi-active homing guidance. It provides the fleet with medium-range anti-air warfare capability against aircraft and missiles. The present production version utilizes a monopulse receiver common with SM-2, and a common SM-1 and SM-2 fuse and warhead. This version increased commonality with SM-2 and improved performance in the area of Electronic Counter Counter Measures (ECCM), maneuvering targets and low-altitude fuzing. The FY 1986 appropriation request of \$35.9 million is to maintain production capability and missile propulsion component acquisition.

STANDARD MISSILE MEDIUM RANGE (MR)(SM-2 BLOCK II)

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	846	\$509,719	900	\$526,981
Initial Spares		10,860		11,025
Procurement Cost		\$520,579		\$538,006

The STANDARD MR (SM-2) is a solid-propellant, tail-controlled, surface-to-air and surface-to-surface missile. The SM-2 Block II MR missile began Pilot Production in FY 1983 and incorporates all digital guidance, new ordinance and a new dual-thrust rocket motor to further improve range, speed and system fire power. The FY 1986 request of \$509.7 million for 846 missiles provides for continued production of missiles required in support of the AEGIS, DDG-51, and TARTAR cruiser New Threat Upgrade Class ships.

STANDARD MISSILE EXTENDED RANGE

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	470	\$312,235	600	\$365,861
Initial Spares		4,316		7,422
Procurement Cost		\$316,551		\$373,283

The STANDARD ER line includes fleet support funding for the SM-1 ER, which ended production in FY 1974. The SM-2 ER missile Block 11 (67C-2 production began in FY 1982 and continues) are planned for deployment in all 31 TERRIER Guided Missiles Destroyers and Cruisers. The SM-2 block 11 missile incorporates improved propulsion, fuse, warhead and guidance designs to cope with the more stringent anti-airship missile (ASM) threats. The FY 1986 appropriation request of \$312.2 million for 470 missiles provides for continued production of Extended Range missiles required to support of TERRIER Cruiser and New Threat Upgrade class ships. Included in the FY 1986 request is \$4.9 million for fleet support of SM-1 ER missiles.

STANDARD MISSILE (SPECIFIC APPLICATIONS)

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	-	\$ -	-	\$10,004
Initial Spares	-	-	-	-
Procurement Cost	-	\$ -	-	\$10,004

This line provides funding for the Department of Defense Components of the W81 Nuclear Warhead. The W81 is intended to be interchangeable with the Conventional Warhead of the SM-2 Block 11 ER end MR missiles that will then become SM-2 (2). The W81 Nuclear Device is provided by the U.S. Department of Energy (DOE). Both the DOE end DOE components of the W81 warhead are integrated by the Department of Energy. The insertion of the W81 into SM-2 Block 11 missiles is accomplished by DOE facilities. In FY 1987 authorization is requested for \$10.0 million to initiate the procurement of DOE components of the W81 warhead.

RIM 116A ROLLING AIRFRAME MISSILE (RAM)

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	117	\$44,713	400	\$112,738
Initial Spares	-	411	-	1,013
Procurement Cost	-	\$45,124	-	\$113,751

The Rolling Airframe Missile (RAM) is a high-power, low-cost, lightweight, complementary self-defense system to engage anti-airship capable missiles. It has dual-mode passive radar-frequency/infrared guidance and will be fired from two launching systems: the NATO SEASPARROW Surface Missile System (NSSMS), of which two cells of the NSSMS system will be modified to hold five (5) RAM rounds each; and a RAM stand-alone Command and Launch System that holds 21 missiles. The appropriation request of \$44.7 million will provide 117 production missiles.

SIDEARM Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	168	\$20,500	205	\$13,856
Initial Spares		55		55
Procurement Cost		\$20,555		\$13,911

The SIDEARM is a short-range, limited frequency-band, anti-radiation missile being developed to counter point defenses. The Marine Corps plans to primarily use the missile system as a quick reaction, point and shoot weapon from the AH-1 attack helicopter. Future plans are to launch the SIDEARM from SIDEWINDER configured AV-8B, F/A-18, and OV-10D aircraft. No modifications to existing rotary and fixed wing avionics interface are required. The SIDEARM engineering development and procurement concept uses converted AIM-9C guidance and control section (CCS), integrated with componenta (motor, fuze, warhead, and safe and arm device) from current production AIM-9N SIDEWINDER missiles. There are approximately 1,000 CCS assets, currently in storage of which it is estimated that 900 will be suitable for conversion to the SIDEARM configuration. Procurement is scheduled to commence in FY 1986 with an initial production of 168 missiles at a cost of \$20.5 million.

AGM-114A HELLFIRE Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	1,304	\$55,068	1,384	\$52,019
Initial Spares		441		1,865
Procurement Cost		\$55,509		\$53,884

HELLFIRE, developed by the Army, provides the Marine Corps with an extremely effective anti-armor weapon for use on AH-1T/J helicopters. In FY 1984 and FY 1985 219 and 438 missiles were procured. In order to continue to build up the inventory of HELLFIRE to satisfy Marine Corps requirements, continuing procurement is requested in FY 1986 for production of 1,304 missiles at a cost of \$55.1 million.

AGM-65E LASER MAVERICK Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement	1,500	\$194,258	1,800	\$209,813
Initial Spares		4,813		12,335
Procurement Cost		\$199,071		\$222,148

The LASER MAVERICK is a forward-fired, laser-guided missile that can be employed from land or carrier based aircraft, and will be delivered primarily for A-4M, AV-8B, F/A-18, and A-6E Marine Corps aircraft. It will be used for interdiction, close-air support and strike requirements against both land and sea targets. In FY 1986 \$194.3 million is requested for follow-on procurement of 1,500 LASER MAVERICK missiles. The FY 1986 procurement is required to continue to build up inventory levels of LASER MAVERICK to satisfy interdiction, close air support, and strike requirements.

AGM-65F IIR MAVERICK Missile

(\$ in Thousands)

	FY 1986		FY 1987	
	QTY	AMT	QTY	AMT
Procurement	195	\$27,809	419	\$54,939
Initial Spares		-		2,134
Procurement Cost		\$27,809		\$57,073

The Imaging Infrared (IIR) MAVERICK missile is currently being developed as a joint services program with the Air Force as executive services. The Navy version of the weapon will utilize an IIR guidance unit optimized for ship tracking, a 300-pound penetrating blast/fragment warhead with cockpit-selectable fuzing, and a reduced-smoke rocket motor. The IIR MAVERICK missile will provide the Navy and Marine Corps with the capability to attack land and sea targets from a more survivable position below and outside of close-in air defense systems. The FY 1986 request of \$27.8 million will provide for the initial procurement of 195 IIR MAVERICK missiles to build up inventory requirements. Failure to add the weapon to the inventory will require that attack aircraft utilize munitions with less stand-off capability that will increase the likelihood of aircraft loss.

Aerial Targets

(\$ in Thousands)

	FY 1986			FY 1987		
	QTY	AMT	TOTAL	INITIAL SPARES	AMT	TOTAL
AQM-37C	125	\$23,179	\$23,179	-	\$29,502	\$29,502
BQM-74C	0	1,567	2,012	-	28,886	28,886
BQM-34S	80	44,627	45,127	500	703	825
Tow Targets	1,000	10,058	10,058	-	15,603	16,418
All Other Targets		26,169	26,884	715	30,720	30,998
		\$105,600	\$107,260		\$105,414	\$106,629

Aerial targets provide the representative threats needed to properly evaluate weapons systems and to provide for an effective Fleet Training program. The BQM-74C and the BQM-34S are both recoverable, subsonic targets that are required for both surface-to-air and air-to-air missile end gunnery exercises. The AQM-37C is a non-recoverable, supersonic target, which replicates high speed threats. In FY 1986, the decision to buy more BQM-34S targets was predicated on a rapidly declining inventory and an increasing user requirement for this target. In FY 1986 the AQM-37C and BQM-34S procurements, and the Tow targets procurement and modification program costs \$77.9 million of the total \$105.6 million. The remaining \$27.7 million finances the materiel costs for the conversion of F-86 aircraft into QF-86 full-scale aerial targets and TALOS missiles into MQM-8X supersonic full-scale targets, and target auxiliary equipment required for target control and augmentation.

Drones and Decoys

(\$ in Thousands)

FY 1986	FY 1987
\$29,400	\$28,100

Analysis of the successful use of small-scale, air-launched decoys has resulted in an emergent requirement for these devices. Tactical decoys have been proven effective against air defenses and will significantly improve the survivability of Navy aircraft. In FY 1986 \$29.4 million finances the continued procurement of needed drones and decoys.

Other Missile Support

(\$ in Thousands)

	FY 1986		FY 1987	
	Qty	Amt	Qty	Amt
Procurement		\$12,309		\$22,908
Initial Spares		632		776
Procurement Cost		\$12,941		\$23,684

The Other Missile Support program provides fleet support materiel for SUBROC, an inertially guided anti-submarine warfare (ASW) missile employing a nuclear warhead that is launched from conventional torpedo tubes, and for procurement of Vertical Launching System (VLS) canisters, which are used as shipping containers, to house the missiles in the VLS cells, and to act as a launching tube. SUBROC fleet support includes items required to support the missile system readiness in the fleet such as materiel for maintenance, testing, missile assembly, repair, and overhaul. The VLS is a missile launching system for surface combatants capable of launching missiles for all warfare areas and adaptable to present and future weapons control systems.

Modification of Missiles

(\$ in Thousands)

FY 1987 Estimates - \$47,003
 FY 1986 Estimates - \$74,933
 FY 1985 Estimates - \$38,460
 FY 1984 Actual - \$58,700

The FY 1986 budget request for missile modification is \$74.9 million and includes funds for air-launched and surface-launched missile modifications. Funds requested provide for the procurement of modification kits only; all installation costs are budgeted in the Operation and Maintenance, Navy appropriation.

FY 1986 Modification Programs
 (\$ in Thousands)

<u>Air-Launched Missiles</u>		<u>Surface-Launched Missiles</u>	
SPARROW*	\$ 2,302	STANDARD Missiles	\$17,102
SIDEWINDER	30,317	TOMARAWK	2,500
PHOENIX	13,205	TOTAL	\$19,602
HARPOON*	9,507		
TOTAL	\$55,331		

* SPARROW and HARPOON can also be surface-launched.

Funds for FY 1986 air-launched missile modification programs are required to improve and update the operational characteristics of SPARROW, SIDEWINDER, PHOENIX, and HARPOON missiles. The SPARROW missile modification program, budgeted at \$2.3 million, provides for AIM/RIM-7M improvements to correct deficiencies found in Technical Evaluation/Initial Operational Test and Evaluation (TECHEVAL/IOTSE) and AIM-7F battery and shear waver changes. The SIDEWINDER missile modification program, budgeted at \$30.3 million, provides for the procurement of guidance and control sections to convert existing AIM-9L missiles in inventory to the most current AIM-9M configuration. The PHOENIX missile modification program, budgeted at \$13.2 million, provides for operability and reliability improvements in the missile. The HARPOON missile modification program, budgeted at \$9.5 million, provides for various modifications to improve reliability and maintainability, to improve terminal homing capability in an electronic countermeasures (ECM) environment, and to enhance performance and survivability.

The FY 1986 STANDARD missile modification program is budgeted at \$17.1 million. The STANDARD Medium Range (MR) missile modification program will reduce resonant burning by reloading of the MK-56 rocket motor. The STANDARD Extended Range (ER) missile modification program includes reconfiguring the MK-7 sustainer sections to the MK-30 version, and upgrading MK-12 boosters to reduce resonant burning and rough separation. To improve performance against low-altitude threats the MK 45 Target detection device will be incorporated into Block VI missiles in inventory.

The TOMAHAWK missile modification program commences in FY 1986 with a request for \$2.5 million for an improved guidance set flight computer that will allow anti-ship TOMAHAWK missiles to operate from a wider range of launch platforms.

FY 1987 Modification Program
(\$ in Thousands)

<u>Air-Launched Missiles</u>		<u>Surface-Launched Missiles</u>	
SPARROW	\$ 2,502	STANDARD Missiles	\$ 9,331
SIDEWINDER	9,704	TOMAHAWK	11,700
PHOENIX	3,525	TOTAL	\$21,031
HARPOON	10,261		
TOTAL	\$25,972		

The FY 1987 funds required for the air-launched missile modification programs are budgeted at \$26.0 million and continue required modifications for SPARROW, SIDEWINDER, PHOENIX and HARPOON missiles.

The FY 1987 STANDARD missile modification program, budgeted at \$9.3 million, continues the required modifications of STANDARD MR and ER rocket motors and sustainer sections.

The FY 1987 TOMAHAWK missile modification program is budgeted at \$11.7 million to continue the improved guidance set flight computer modification and initiate signal certification device modification.

(\$ in Thousands)

Support Equipment and Facilities

FY 1987 Estimate	- \$130,640
FY 1986 Estimate	- \$ 84,010
FY 1985 Estimate	- \$211,800
FY 1984 Actual	- \$202,600

Support Equipment and Facilities include the Weapons Industrial Facilities, the Defense Meteorological Satellite, and the Fleet Satellite Communications programs. Initial Spares and Replenishment Spares are included in FY 1984 and FY 1985, but beginning in FY 1986, Initial Spares and Replenishment Spares are budgeted in Budget Activity 5.

Weapons Industrial Facilities

(\$ in Thousands)

FY 1986		FY 1987	
\$18,908		\$12,409	

The FY 1986 and 1987 estimates of \$18.9 million and \$12.4 million, respectively, for missile end other ordnance producing industrial facilities include funds for four categories of production support. The first of these categories, is restoration and replacement of machine tools, and related production equipment, and accounts for \$4.9 million in FY 1986 and \$5.1 million in FY 1987. This program is designed to provide and maintain an economical production capability through the procurement of modern machine tools to replace obsolete equipment and the restoration or modification of tools, which are worn or require updating. Inefficient government-owned equipment is replaced or rehabilitated only when: (1) the contractor is unwilling or unable to fund the project, or (2) the project will reduce the end-item costs to the government and improve the industrial readiness posture. All actions undertaken in this program are scrutinized to assure rapid amortization of procurement costs and maximum practicable usage of tools in inventory. The second category is capital maintenance, emergency repairs, fire protection improvements, and energy conservation and management (ECAM), and is budgeted at \$7.0 million in FY 1986 and \$6.1 million in FY 1987. These funds provide for nonrecurring capital maintenance at government-owned missile and weapon producing industrial plants as well as emergency repairs and improvements designed to reduce fire and other safety hazards. The third category is the modernization of ordnance production facilities. The budgeted amount of \$6.0 million in FY 1986 to cover various facility requirements at Navy Industrial Reserve Ordnance Plant (NIROP) Pomona, NIROP Pittsfield, NIROP Minneapolis, and the Alleghany Ballistics laboratory. The fourth category includes \$1.0 million in FY 1986 and \$1.2 million in FY 1987 are to be used to clean up government-owned contractor-operated property that has been subject to hazardous and/or toxic disposal problems.

Defense Meteorological Satellite

(\$ in Thousands)

FY 1986	FY 1987
<u>\$8,802</u>	<u>\$ 9,904</u>

The Defense Meteorological Satellite program funds the Navy's procurement of Microwave Imagers. The imager has been developed and previously procured under a Joint Navy/Air Force program. The imager is a new sensor tailored for operation onboard a new series of spacecraft that will fulfill Navy data requirements for surface wind speed, precipitation intensity and identification of ice edge, ice coverage and ice age in polar areas. The \$8.8 million requested in FY 1986 will procure one imager for the Navy.

Fleet Satellite Communications

(\$ in Thousands)

FY 1986	FY 1987
<u>\$56,300</u>	<u>\$108,327</u>

The Fleet Satellite Communications (FLTSATCOM) system satisfies the Navy's urgent worldwide Ultra High Frequency (UHF) mobile user communication requirements. This includes protected fleet broadcast service to all Navy ships plus a vital command and control service to all Anti-Submarine Warfare (ASW) platforms, Fleet Ballistic Missile (FBM) submarines, aircraft carriers, cruisers and other selected aircraft, ships and submarines. The system also satisfies the Air Force equatorial satellite communication requirements including presidential airborne command posts, Strategic Air Command and emergency mission support communications. A constellation of channelized satellites, placed in geo-stationary orbits, is used to meet Navy and Air Force UHF communication requirements. The worldwide four satellite constellation FLTSATCOM system is fully operational and is meeting or exceeding performance requirements.

The \$56.3 million requested for FY 1986 and \$36.6 million of the funds requested for FY 1987 pay for the launch, launch support, and initial on-orbit test, checkout and acceptance for operational use, of replenishment spacecraft F-7 and F-8. The remaining \$71.7 million in FY 1987 is for the initial acquisition efforts for the follow-on replenishment spacecraft needed in the 1990s.

Ordinance Support Equipment

(\$ in Thousands)	
FY 1986	FY 1987
\$71,889	\$207,785

No justification materials are submitted due to security considerations.

Budget Activity 3: Torpedoes and Related Equipment

(\$ in Thousands)
FY 1987 Estimate - 1,152,238
FY 1986 Estimate - 798,045
FY 1985 Estimate - 724,200
FY 1984 Actual - 643,265

Purpose and Scope of Work: These funds provide for the procurement of anti-submarine/ship weapons such as torpedoes, mines and underwater targets, torpedo and mine modifications, and associated support equipment items related to production, as well as acquisition of other equipment and support necessary to maintain fleet readiness.

Justification of Funds: Of the \$798.0 million requested in FY 1986, \$586.2 million is for procurement of torpedoes and related equipment, \$141.2 million is for modification of torpedoes and related equipment, and \$70.6 million is for procurement of support equipment.

Of the \$1,152.3 million requested in FY 1987, \$953.6 million is for procurement of torpedoes and related equipment, \$134.6 million is for modification of torpedoes and related equipment, and \$64.1 million is for procurement of support equipment.

Initial spares and repair parts are provided for informational purposes and are included in Budget Activity 5 beginning in FY 1986.

(\$ in Thousands)
FY 1987 Estimate - 953,587
FY 1986 Estimate - 586,202
FY 1985 Estimate - 596,000
FY 1984 Actual - 487,800

Of the \$586.2 million requested in FY 1986, \$417.4 million is for procurement of 123 MK-48 ADCAP torpedoes, \$105.5 million is for procurement of 500 MK-46 NEARTIP torpedoes, \$23.6 million is for procurement of MK-46 long lead material (Advance Procurement), \$24.1 million is for underwater target procurements, and \$15.6 million is for procurement of ASROC replacement components.

Of the \$953.6 million requested in FY 1987, \$622.6 million is for the procurement of 280 MK-48 ADCAP torpedoes, \$83.0 million is for the procurement of 500 MK-46 NEARTIP torpedoes, \$23.8 million is for MK-46 long lead material (Advance Procurement), \$17.9 million is for underwater target procurements, \$18.1 million is for procurement of ASROC replacement components, \$71.1 million for 250 Vertical Launch ASROC missiles (less warheads), and \$117.0 million is for procurement of 84 MK 50 Advanced Lightweight Torpedoes.

The following paragraphs provide justification for the FY 1986 and FY 1987 Torpedoes and Related Equipment request.

Torpedo MK-48 Advanced Capability (ADCAP)

(\$ in Thousands)			
FY 1986		FY 1987	
QTY	AMT	QTY	AMT
123	417,437	280	622,625
	15,773		48,739
	433,210		671,364

Procurement
Initial Spares
Procurement Cost

Torpedo MK 48 ADCAP (Advanced Capability) was developed as an improvement to the Torpedo MK-48 to counter enemy submarine threats through the 1990's. The improvements in the guidance and control systems will allow the ADCAP torpedo to operate against targets with reduced sonar target strength and targets which present a low doppler profile and improvements in the propulsion system will allow the torpedo to go faster, deeper and farther than the current MK 48 torpedo. These improvements will allow the ADCAP torpedo to operate in adverse environments such as shallow water, high sea conditions, strong thermal gradients and under ice. FY 1986 and FY 1987 provide for procurement of 123 and 280 ADCAP torpedoes, respectively, production support equipment, production support and continuation of competition for the Afterbody/Tailcone (second source).

Torpedo MK-46

(\$ in Thousands)			
FY 1986		FY 1987	
QTY	AMT	QTY	AMT
500	105,515	500	83,001
	3,675		-
	109,190		83,001

Procurement
Initial Spares
Procurement Cost

The Torpedo MK-46 is a lightweight ASW torpedo launched from surface ship torpedo tubes, ASROC launchers, fixed wing and rotary wing aircraft. The Torpedo MK-46 (WEARTIP) is an improved version of the MK-46 Torpedo Mod 1 and features improved countermeasures resistance and an improved acoustic system. FY 1986 and FY 1987 resources provide for continued procurement of the WEARTIP (Mod 5) version of the Torpedo MK-46, fleet support items, production support and proofing under a three-year multiyear procurement (FY 1986 through FY 1988). Long lead materials are being procured under the Torpedo MK-46 Advance Procurement line item; Mod 5 kits, procured under the Torpedo MK-46 Mods line item, also will be included in the multiyear procurement.

Torpedo MK-46 (MYP) Advance Procurement

(\$ in Thousands)			
FY 1986		FY 1987	
QTY	AMT	QTY	AMT
	23,600		23,800
	-		-
	23,600		23,800

Procurement
Initial Spares
Procurement Cost

FY 1986 and FY 1987 funding provides for procurement of long lead material required to implement a three-year multiyear procurement program for the Torpedo MK-46, FY 1986 through FY 1988. This multiyear procurement approach, which includes MK-46 ORDAIT kits, separately justified under the Torpedo MK-46 Mods line item, is expected to effect total cost savings of \$51.4 million for both torpedoes and kits over the three year period.

Torpedo MK-50 Advanced Lightweight Torpedo

	(\$ in Thousands)	
	FY 1986	FY 1987
	QTY	QTY
	AMT	AMT
Procurement	-	84
Initial	-	117,018
Procurement Cost	-	7,107
		124,125

Torpedo MK-50 is being developed as a replacement for the lightweight MK-46 Torpedo. The MK-50 will provide an ASW torpedo for surface and air ASW platforms designed to combat the submarine threat of the late 1980's and 1990's period.

Mobile Target MK-30

	(\$ in Thousands)	
	FY 1986	FY 1987
	QTY	QTY
	AMT	AMT
Procurement	6	-
Initial Spares	20,600	2,406
Procurement Cost	-	-
	24,600	2,406

The MK-30 Mobile Target provides air, surface and submarine ASW units with the means to conduct realistic exercise firings on three-dimensional underwater ranges. This target provides the basic training capability to exercise surface ship and submarine sonars, actively and passively fired torpedoes, and aircraft equipped with sonobuoys and Magnetic Anomaly Detection (MAD) gear. The FY 1986 request is for continued procurement of MK-30 targets. The procurement of additional targets in FY 1986 continues the build up of assets to support achievement of 2,400 MK-30 in-water runs per year at four underwater sites. The FY 1987 request provides for annualized production support efforts. Targets originally planned for procurement in FY 1987 will be procured with the FY 1988 target procurement for a more economical buy.

Expendable Mobile ASW Training Target (EMATT)

	(\$ in Thousands)	
	FY 1986	FY 1987
	QTY	QTY
	AMT	AMT
Procurement	-	2584
Initial Spares	-	15,506
Procurement Cost	-	15,506

The Target MK 39, EMATT, is being developed to provide an improved, inexpensive, lightweight, expendable mobile ASW training target for open ocean use. The existing Mini-Mobile Target MK 38 was designed for use by ASW surface platforms and is not acoustically compatible with airborne sensor systems. The Target MK 39 EMATT will provide increased dynamic and acoustic capability for use with both surface and air ASW systems. The FY 1987 request provides for the initial procurement of 2,584 targets.

MK-38 Mini Mobile Target

	(\$ in Thousands)	
	FY 1986	FY 1987
	QTY	QTY
	AMT	AMT
Procurement	1200	-
Initial Spares	3,499	-
Procurement Cost	3,499	-

The MK-38 mini mobile target is a small, expendable, hand-launched acoustic device for use as an open ocean training aid for sonar and torpedo teams. Its small size, low cost, ease of use and simplicity makes it an excellent shipboard complement to the Mobile Target MK-30 which is confined to use on underwater ranges. The FY 1986 request provides for continued MK-38 Mini-Mobile Target production to support projected fleet usage, and associated production support and proofing efforts. FY 1986 is the last year for procurement of MK 38 targets and fully funds Technical Direction Agent support through delivery of the last FY 1986 units in FY 1988.

ASROC Component Replacement

	(\$ in Thousands)	
	FY 1986	FY 1987
	QTY	QTY
	AMT	AMT
Procurement	-	-
Initial Spares	15,551	18,107
Procurement Cost	15,551	18,107

The ASROC (Anti-Submarine Rocket) is a weapon system designed around a range-controlled, unguided rocket missile which carries a torpedo or a depth charge as a payload. ASROC is utilized by most surface combatants to defend against high performance enemy submarines. The FY 1986 and FY 1987 requests provide for procurement of ASROC components to replace those that were expended during fleet training exercises. The principal element of cost in FY 1986 and FY 1987 is the continued procurement of rocket motor and Ignition Separation Assemblies MK-4 (ISA). The ISAs are being procured in a new design which makes them safe from the hazards of accidental detonation caused by shipboard electromagnetic equipment (designated HERO: Hazards of Electromagnetic Radiation to Ordnance). Procurement of the HERO-safe MK-4 ISA is required in order to replenish inventories of the older non-HERO safe MK-3 ISAs depleted by training losses and will eventually replace the entire inventory of the older components.

Vertical Launch ASROC

	FY 1986		FY 1987	
	QTY	AMT	QTY	AMT
Procurement	-	-	250	71,124
Initial Spares	-	-	-	584
Procurement Cost	-	-	-	71,708

Vertical Launch ASROC is a replacement system for the older ASROC weapon system. It will provide an vertically launched weapon to a greater distance with equal accuracy utilizing the latest torpedo/depth charge configuration. The FY 1987 request is for procurement of a limited initial quantity of 250 units.

Modification of Torpedoes and Related Equipment

(\$ in Thousands)	
PY 1987 Estimate -	134,556
PY 1986 Estimate -	141,268
PY 1985 Estimate -	32,200
PY 1984 Actual	89,100

The \$141.3 million in FY 1986 and the \$134.6 million in FY 1987 are requested to fund the following modification programs.

	(\$ in Thousands)	
	FY 1986	FY 1987
MK-46 Torpedo Mods	91,935	83,626
MK-46 Torpedo Mods	8,400	5,200
Advance Procurement		
Mobile Mine MK-67	23,727	26,123
Mobile Mine MK-67		
Initial Spares	(1,584)	
CAPTOR Mods	15,705	15,406
Swimmer Weapon System	1,501	4,201

Torpedo MK-46 Mods (MYP)

\$91.9 million is requested in FY 1986 and \$83.6 million in FY 1987 for procurement of 672 NEARTIP modification kits each year under a three-year multiyear contract, FY 1986 through FY 1988. The MK 46 Mods and the purchase of new MK 46 Torpedoes will be combined into a single multiyear contract to generate maximum savings. These NEARTIP kits will be installed in existing MK-46 Mod 1 (non-CAPTOR) torpedoes to convert them to Mod 5 torpedoes. Long lead materials are being procured under the Torpedo MK-46 Mods (MYP) Advance Procurement line item.

Torpedo MK-46 Mods (MYP) Advance Procurement

FY 1986 and FY 1987 funding provides for procurement of long lead material required to implement a three-year multiyear procurement program for the Torpedo MK-46 Mod 5 kits (FY 1986 through FY 1988). This multiyear procurement approach, which includes MK-46, torpedoes separately justified under the torpedo MK-46 line item, is expected to effect total cost savings of \$51.4 million for both kits and torpedoes over the three-year period.

Mobile Mine MK-67

\$23.7 million is requested in FY 1986 and \$26.1 million is requested in FY 1987 in order to procure the material for and support the modification of MK-37 Torpedoes to a Submarine Launched Mobile Mine (SLMM) configuration. Included within the funding requests are resources to support procurement of training mines, production support and proofing services.

CAPTOR Mods

\$15.7 million is requested in FY 1986 and \$15.4 million is requested in FY 1987 in order to support procurement of modifications for MK-60 CAPTOR mines currently in the fleet. These modifications will update the older mines to the latest approved production baseline configuration.

Swimmer Weapon System

\$1.5 million is requested in FY 1986 and \$4.2 million is requested in FY 1987 in order to provide for continued procurement of unique weapon and equipment required by the Navy special Warfare Groups One and Two (SEAL teams) to carry out beach clearance, underwater and direct action missions. Currently, there are eight SEAL teams deployed within the Fleet. The major special warfare system is the stand-off weapon assembly MK-32 which is comprised of the stand-off weapon MK-31 and weapon control system MK-5.

Support Equipment

(\$ in Thousands)	
FY 1987 Estimate -	64,095
FY 1986 Estimate -	70,575
FY 1985 Estimate -	96,000
FY 1984 Actual -	66,365

Of the \$70.6 million requested in FY 1986, \$47.4 million is for Torpedo Support Equipment, and \$23.2 million is for ASW Range Support.

Of the \$64.1 million requested in FY 1987, \$42.1 million is for Torpedo Support Equipment, and \$22.0 million is for ASW Range Support.

Torpedo Support Equipment

	(\$ in Thousands)
	FY 1986
Procurement	\$47,417
Initial Spares	-
Procurement Cost	\$47,417
	FY 1987
	\$42,094
	-
	\$42,094

This line item provides the fleet with the components necessary to restore weapons used to conduct training exercises (which involves actually firing the torpedoes) back to a ready-for-issue warshot status. Thus this request supports combat-ready deployment of anti-submarine warfare forces. The funds requested provide for procurement of components expended during torpedo firings such as batteries, pressure cylinders, propellant assemblies and various air-launch accessories; equipment and components worn out or lost during repeated service such as exercise heads and fuel tanks; and production support efforts associated with the above procurements. Procurement quantities of these items vary each year and are dependent upon fleet training requirements and the tempo of operations. The FY 1986 and FY 1987 resources procure the material required to support fleet training exercises and operational inventories for the MK-46, MK-48, and MK-48 ADCAP Torpedoes.

ASW Range Support

	(\$ in Thousands)
	FY 1986
Procurement	23,158
Initial Spares	1,021
Procurement Cost	24,179
	FY 1987
	22,001
	1,028
	23,029

The Anti-Submarine Warfare Range Support Program provides for the procurement of range proofing and fleet support equipments required for use on the Navy's underwater ranges and for the fixed costs of on-range proofing services. This includes the procurement of pingets, transponders, MK-30 and MK-27 Target exercise components and other related items. This line item supports Fleet exercises and torpedo firings and provides equipment for ASW readiness assessment.

Budget Activity 4: Other Weapons

(\$ In Thousands)
FY 1987 Estimate - \$248,843
FY 1986 Estimate - \$247,470
FY 1985 Estimate - \$242,111
FY 1984 Actual - \$173,781

Purpose and Scope of Work

These funds provide for the procurement of guns and gun mounts for U.S. Navy and Coast Guard Ships. This budget activity also provides for the associated modifications and support equipment.

Justification of Funds

Of the \$247.5 million requested in FY 1986, \$188.2 million is for 39 Close-In Weapon Systems, 6 MK-75/76MM Gun Mounts, 56 MK-19 Mod 3 40MM Machine Guns, 29 25MM Gun Mounts, and Small Arms and Weapons. \$58.1 million is for Gun and Gun Mount modification and \$1.2 million is for support equipment.

Of the \$248.8 million requested in FY 1987, \$168.2 million is for 32 Close-In Weapon Systems, 5 MK-75/76MM Gun Mounts, 25 MK-19 Mod 3 40MM Machine Guns, 22 25MM Gun Mounts, and Small Arms and Weapons. \$79.7 million is for Gun and Gun Mount modification and \$.9 million is for support equipment.

The following paragraphs provide justification for Other Weapons. Initial spare parts amounts are included for information under each weapon system, but are separately justified in Budget Activity 5.

Guns and Gun Mounts

(\$ In Thousands)
FY 1987 Estimate - \$168,206
FY 1986 Estimate - \$188,153
FY 1985 Estimate - \$188,111
FY 1984 Actual - \$139,781

Of the \$188.2 million requested for Guns and Gun Mounts in FY 1986 \$150.1 million is for 39 MK-15 Close-In Weapon Systems \$20.0 million is for 6 MK-75/76MM Gun Mounts, \$1.2 million is for 56 MK-19 Mod 3 40MM Machine Guns, \$5.5 million is for 29 25MM Gun Mounts, and \$11.3 million is for Small Arms and Weapons.

Of the \$168.2 million requested for Guns and Gun Mounts in FY 1987, \$132.9 million is for 32 Close-In Weapon Systems, \$17.8 million is for 5 MK-75/76MM Gun Mounts, \$.7 million is for 25 MK-19 Mod 3 40MM Machine Guns, \$4.3 million is for 22 25MM Gun Mounts, and \$12.5 million is for Small Arms and Weapons.

MK-15 Close-In Weapon System (PHALANX)

(\$ In Thousands)			
	FY 1986	FY 1987	
	QTY	QTY	AMT
Procurement	39	32	\$132,939
Initial Spares	-	-	577
Procurement Cost	39	32	\$133,516

The PHALANX is designed as a fast reaction, last ditch defense against low flying aircraft and anti-ship missiles penetrating other Fleet defensive weapons envelopes. The system is an automatic self-contained unit consisting of search and track radar, digital fire control system and a 20MM M61A1 gun all mounted in a single above deck structure requiring a minimum of interface with other ship systems. It automatically detects, evaluates, tracks, engages, assesses kill and returns to search mode. The system will be installed in over 300 ships, both new construction and retrofit. Commencing in FY 1985, improvements will be incorporated and will result in increased magazine capacity and increased search evaluation. The requests represent funds for 39 systems in FY 1986 and 32 systems in FY 1987 for backfit onto active Fleet ships.

MK-75/76MM Gun Mount

(\$ In Thousands)			
	FY 1986	FY 1987	
	QTY	QTY	AMT
Procurement	6	5	\$17,787
Initial Spares	-	-	6,758
Procurement Cost	6	5	\$24,545

This gun is an OTO MELARA designed, 76MM/62 caliber, dual purpose, high rate of fire gun being installed in new construction hulls, Coast Guard cutters, Navy Patrol boats and frigates and as part of the Mid-Life Conversion of Hamilton Class Coast Guard cutters.

This request provides for the procurement of six (6) gun systems, four (4) for Mid-Life Conversion of the Hamilton Class Coast Guard cutters and two (2) for rotatable pool mounts to support overhaul in FY 1986; and five (5) gun systems, one (1) for Hamilton Class and four (4) for rotatable pool mounts in FY 1987.

MK-19 40MM Machine Gun

(\$ In Thousands)			
	FY 1986	FY 1987	
	QTY	QTY	AMT
Procurement	56	25	\$674
Initial Spares	-	-	0
Procurement Cost	56	25	\$674

The MK-19 Mod 3 40MM Machine Gun program is required to provide a more effective, safe and reliable 40MM grenade firing weapon for arming ships and crafts. The MK-19 Mod 3 is planned as an initial issue and replacement weapon for the Navy's present inventory of MK-19 Mod 1 40MM Machine Guns.

25MM Gun Mount

	(\$ In Thousands)	
	FY 1986	FY 1987
	QTY	AMT
Procurement	29	\$5,501
Initial Spares	-	1,069
Procurement Cost	29	\$6,570
		22
		\$4,301
		2,184
		\$6,485

This line provides for the procurement of 25MM M242 guns and mounts to replace MK-16 Mods 4/5 20MM Gun Mounts. The 25MM M242 Gun Systems are required by Navy to meet installation requirements for crafts and ships as short range armament.

Small Arms and Weapons

	(\$ In Thousands)	
	FY 1986	FY 1987
	QTY	AMT
Procurement	-	\$11,305
		-
		\$12,505

This line provides for initial procurement, modernization, standardization, and stock replenishment procurement of a wide variety of Small Arms and Weapons (.50 Caliber and below) including required gun mounts and associated support components to meet wartime allowances, inventory objective quantities and the increased demands for small arms weapons by the Fleet Commanders and the Shore Establishment to counter the world-wide terrorist threats. This line also provides for procurement of sufficient types and quantities of weapons to support training, ship security, afloat and ashore missions of approximately 2665 ships and ashore activities Navy-wide, as well as specially equipped weapons to support the SEAL Teams, Mobile Construction Battalions and other Special Warfare Units. Additionally, the funding provides for continued procurement of the 9MM handgun.

Modification of Guns and Gun Mounts

(\$ In Thousands)

FY 1987 Estimate	- \$79,737
FY 1986 Estimate	- \$58,117
FY 1985 Estimate	- \$40,800
FY 1984 Actual	- \$23,300

Of the \$58.1 million requested for modification of guns and gun mounts in FY 1986, \$37.1 million is for MK-15 Close-In Weapon System modification, \$14.1 million is for 5"/54 Gun Mount modification, \$4.2 million is for MK-75/75MM Gun Mount modification, \$7 million is for 3"/50 Gun Mount modification, and \$2.0 million is for modifications under \$900,000.

Of the \$79.7 million requested for modification of guns and gun mounts in FY 1987, \$56.3 million is for MK-15 Close-In Weapon System modification, \$14.7 million is for 5"/54 Gun Mount modification, \$4.5 million is for MK-75/76MM Gun Mount modification, \$1.8 million is for 3"/50 Gun Mount modification, and \$2.4 million is for modifications under \$900,000.

MK-15 Close-In Weapon System (PHALANX) Modification

(\$ In Thousands)			
	FY 1986	FY 1987	
Procurement	QTY -	QTY -	AMT \$56,329
	AMT \$37,111		

The \$37.1 million in FY 1986 and \$56.3 million in FY 1987 are requested for improvements to the Close-In Weapon system which will result in increased magazine capacity, increased search elevation angle and adaptive firing rate. Funds requested are to adapt previously procured units to incorporate these improvements. Systems being procured in FY 1985 and subsequent years will incorporate these improvements.

5"/54 Gun Mount Modifications

(\$ In Thousands)			
	FY 1986	FY 1987	
Procurement	QTY -	QTY -	AMT \$14,705
Initial Spares	AMT 3,844		6,387
Procurement Cost	AMT \$17,948		\$21,092

Of the funds requested, \$14.1 million in FY 1986 and \$14.7 million in FY 1987 are required for continuation of the 5"/54 ORDAIT and Production Improvement Program which provides hardware to correct deficiencies and improve operability, reliability, maintainability and system availability of all in-service 5"/54 Gun Mounts.

3"/50 Gun Mount Modifications

(\$ In Thousands)			
	FY 1986	FY 1987	
Procurement	QTY -	QTY -	AMT \$1,801
	AMT \$700		

The \$.7 million in FY 1986 and \$1.8 million in FY 1987 are requested for major reliability, maintainability, and availability improvements for 3"/50 Gun Mounts.

MK-75/76MM Gun Mount Modifications

	(\$ In Thousands)
	FY 1986
Procurement	\$4,201
Initial Spares	454
Procurement Cost	\$4,655
	FY 1987
	\$4,501
	569
	\$5,070

The \$4.2 million in FY 1986 and \$4.5 million in FY 1987 are requested to procure safety, operability, reliability, shock, vibration, improvements and survivability modifications to correct in-service MK-75/76MM Gun Mount deficiencies.

Modifications Under \$900,000

	(\$ In Thousands)
	FY 1986
Procurement	\$2,001
Initial Spares	14
Procurement Cost	\$2,015
	FY 1987
	\$2,401
	670
	\$3,071

The \$2.0 million in FY 1986 and \$2.4 million in FY 1987 are requested to procure a variety of ordnance alteration materials for in-service 16"/50 gun turrete, gun mounts, and 20MM through 40MM minor calibration ordnance.

Support Equipment

	(\$ In Thousands)
FY 1987 Estimate	- \$ 900
FY 1986 Estimate	- \$ 1,200
FY 1985 Estimate	- \$13,200
FY 1984 Actual	- \$10,700

\$1.2 million requested for support equipment in FY 1986.

\$.9 million requested for support equipment in FY 1987.

Gun Support Equipment

	(\$ In Thousands)
	FY 1986
Procurement	\$1,200
	FY 1987
	\$900

The \$1.2 million in FY 1986 and \$.9 million in FY 1987 are requested to procure a variety of ordnance to support of Surface Gun Systems. This includes training aids and specialized small arms.

Budget Activity 5 - Spares and Repair Parts (P-1) Line Items 77 & 78)

(\$ In Thousands)	
FY 1987 Estimate	- \$286,425
FY 1986 Estimate	- \$166,601
FY 1985 Estimate	- \$ 0 1/
FY 1984 Actual	- \$ 0 1/

Purpose and Scope of Work: These funds provide for the procurement of spares and repair parts for all equipments, weapon systems and support equipment procured under the Weapons Procurement, Navy (WPN) appropriation which require support by the Hardware Systems Commands prior to the Navy Supply System Material Support Date (MSD).

Justification of Funds: Of the \$166.6 million requested in FY 1986, \$154.7 million is for Initial spares and \$11.9 million is for Replenishment spares.

Of the \$286.4 million requested in FY 1987, 270.4 million is for Initial spares and \$16 million is for Replenishment spares.

The following paragraphs provide the justification for each program.

Initial Spares

(\$ In Thousands)	
FY 1986	FY 1987
\$154,674	\$270,417

The requested funding provides for the procurement of initial spares and repair parts to support missile, ASW and other weapons/support equipment procured in this appropriation. Requirements for Navy initial spares procurement are determined by detailed provisioning procedures that consider a wide range of factors including the use of the end item, usage rate trends, engineering judgement and repairable item turnaround time.

Replenishment Spares

(\$ In Thousands)	
FY 1986	FY 1987
\$11,927	\$16,008

The requested funding provides for the procurement of replenishment spares and repair parts requirements utilizing a stratification technique which considers the number of equipments/weapon systems installed in the Fleet, repair part usage data, Ready-For-Issue (RFI) spares returning from rework/repair programs and equipment leadtimes to derive net fiscal year budget requirements.

1/ \$106.8 million in FY 1984 and \$172.5 million in FY 1985 for spares and repair parts are included in the totals for Budget Activities 1 through 4.

Comparison of FY 1985 Program Requirements as Reflected
In FY 1985 Budget With FY 1985 Program Requirements as
Shown in FY 1986 Budget

Summary of Requirements (In Thousands of Dollars)

	Total Program Requirements		Program Requirements Per FY 1986 Budget	Increase (+) or Decrease (-)
	Per FY 1985 Budget			
Ballistic Missiles	\$ 379,800	\$ 340,629		\$ -39,171
Other Missiles	3,228,960	3,046,671		-182,289
Torpedoes and Related Equipment	799,000	724,200		-74,800
Other Weapons	243,100	242,111		-989
Reimbursable Program	25,000	25,000		0
Total Fiscal Year Program	\$4,675,860	\$4,378,611		\$-297,249

Explanation by Budget Activity

1. Ballistic Missiles (\$-39.1 Million)

The decrease results from Congressional reductions totaling \$22.9 million for the following: \$-10.0 million to the TRIDENT 1 request, \$-5.9 million to the POSEIDON Modification request, and \$-7.0 million in general reductions. Additional reductions totaling \$16.2 million reflect planned DD 1415 reprogramming actions and minor reprogramming actions for higher priority Navy requirements.

2. Other Missiles (\$-182.3 Million)

The net decrease reflects Congressional adjustments totaling \$-198.5 million for the following: \$-10.0 million to the Sidewinder missile request; \$-93.0 million to the PHOENIX missile request resulting in a reduction of 135 missiles; \$-12.4 million to the PHOENIX Advance Procurement request; \$-31.5 million to the HARM missile request; \$-16.0

Explanation by Budget Activity

million to the RIM 668 Standard MR missile request; \$-7.6 million to the LASER MAVERICK missile request; \$-29.7 million to the Imaging Infrared Maverick missile request resulting in denial of funding for the requested 190 missiles; \$-17.0 million to Spares and Repair Parts; \$-4.0 million to Ordnance Support Equipment; \$-9.0 million in general reductions; and the addition of \$11.7 million for the PENGUIN Missile Advance Procurement and \$20.0 million for the SPARROW missile request. An increase of \$16.2 million reflects planned DD 14.5 reprogramming actions and minor reprogramming actions for higher priority Navy requirements.

3. Torpedoes and Related Equipment: (\$-74.8 Million)

The decrease reflects Congressional adjustments of \$-74.8 million for the following: \$-26.3 million to the MK-46 Torpedo request; \$-6.5 million to the MK-60 CAPTOR mine request; \$-38.7 million to the MK-48 Torpedo request resulting in a reduction of 36 torpedoes; \$-108.9 million to the MK-48 Torpedo modification request; and the addition of \$105.6 million for procurement of 44 MK-48 Advanced Capability (ADCAP) torpedoes.

4. Other Weapons (\$-1.0 Million)

The decrease reflects the application of \$1.0 million of the general Congressional reductions to Other Weapons.

Comparison of FY 1985 Financing As Reflected
in FY 1985 Budget With FY 1985 Financing As
Shown in FY 1986 Budget

	Financing Per FY 1985 Budget	Financing Per FY 1986 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	\$4,675,860	\$4,378,611	\$ 297,249
Program Requirements (Service Account)	4,650,860	4,353,611	-297,249
Program Requirements (Miscellaneous)	25,000	25,000	0
Less:			
Anticipated Reimbursements	25,000	25,000	0
Reprogramming from prior year budget plans	0	0	0
Unobligated balance available from prior year to finance new budget plans	0	0	0
Transferred from other accounts	0	0	0
Add:			
Unobligated balance available to finance subsequent year budget plans	0	0	0
Appropriation (Adjusted)	\$4,650,860	\$4,353,611	\$-297,249

Explanation of Changes in Financing

The decrease of \$297.2 million to the FY 1985 Appropriation resulted from
Congressional reductions.

Comparison of FY 1984 Program Requirements as Reflected
in FY 1985 Budget With FY 1984 Program Requirements as
Shown in FY 1986 Budget

Summary of Requirements (in Thousands of Dollars)

	Total Program Requirements Per FY 1985 Budget	Program Requirements Per FY 1986 Budget	Increase (+) or Decrease (-)
Ballistic Missiles	\$ 578,400	\$ 556,500	\$-21,900
Other Missiles	2,383,879	2,369,633	-14,246
Torpedoes and Related Equipment	650,800	643,265	-7,535
Other Weapons	156,500	173,781	+17,281
Reimbursable Program	25,000	76,782	+51,782
Total Fiscal Year Program	\$3,794,579	\$3,819,961	\$+25,382

Explanation by Budget Activity

1. Ballistic Missiles (\$-21.9 Million)

The decrease results from a \$20.9 million DD 1415 reprogramming action to the Research, Development, Test and Evaluation, Navy appropriation and a \$1.0 million minor reprogramming decrease.

2. Other Missiles (\$-14.2 Million)

The decrease results from a \$7.5 million DD 1415 reprogramming action to the Research, Development, Test and Evaluation, Navy appropriation; a \$2.0 million DD 1415 reprogramming action to Other Weapons; and minor reprogramming decrease of \$4.7 million.

Explanation by Budget Activity

3. Torpedoes and Related Equipment (\$-7.5 Million)

The net decrease results from a \$10.0 million DD 1415 reprogramming action to Other Weapons, minor reprogramming increases of \$0.5 million, and the reinstatement of \$2.0 million planned for transfer to other accounts.

4. Other Weapons (\$+17.2 Million)

The increase results from a \$10.0 million DD 1415 reprogramming action from Torpedoes and Related Equipment; a \$2.0 million DD 1415 reprogramming action from Other Missiles; and minor reprogramming increases of \$5.2 million.

Comparison of FY 1984 Financing As Reflected
In FY 1985 Budget With FY 1984 Financing As
Shown in FY 1986 Budget

	Financing Per FY 1985 Budget	Financing Per FY 1986 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	\$3,794,579	\$3,819,961	\$+25,382
Program Requirements (Service Account)	3,769,579	3,743,179	-26,400
Program Requirements (Reimbursable)	25,000	76,782	+51,782
Less:			
Anticipated Reimbursements	25,000	76,782	+51,782
Keprogramming from prior year budget plans	0	0	0
Unobligated balance available from prior year to finance new budget plans	77,800	77,800	0
Transferred from other accounts	0	0	0
Add:			
Unobligated balance available to finance subsequent year budget plans	0	28,400	+28,400
Appropriation (Adjusted)	\$3,691,779	\$3,693,779	\$ +2,000

Explanation of Changes in Financing

The increase of \$2.0 million to the FY 1984 Appropriation resulted from a reinstatement of \$2.0 million planned for transfer to other accounts. The \$26.4 million decrease to the service account program requirements is due to DD 1415 reprogramming actions to the Research, Development, Test and Evaluation, Navy appropriation totaling \$28.4 million and reinstatement of \$2.0 million planned for transfer to other accounts. The adjustment for reimbursables reflects an anticipated \$51.8 million increase in reimbursable orders.

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TOMAHAWK		

REPRODUCED AT GOVERNMENT EXPENSE

Basis for Cost Estimate: Engineering estimates.

Method of Implementation: Return to vendor.

Installation Schedule: In accordance with POMFLANT turnaround schedule.

55

MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: ROSEIDON UGM-73A (C-3)

Missile/Modification Title: C-3 Thrust Vector Control (TVC) Gas Generator

Description/Justification: The current C-3 TVC Gas Generators are tested in an annual Service Life Evaluation Program. The past years of deployed TVC Gas Generators have produced a degradation of the propellant. This modification will provide new TVC Gas Generators.

Scope of Program:

(\$000)

FY 1984 & Prior Years		FY 1985		FY 1986		FY 1987		Future Years		Total Program	
Qty	Amc	Qty	Amc	Qty	Amc	Qty	Amc	Qty	Amc	Qty	Amc
562	\$16,447	89	\$3,000	57	\$2,000	74	\$2,700	07	\$2,600	849	\$26,747

Basis for Cost Estimate: Cost based on vendor experience and vendor estimates.

Method of Implementation: Incorporation of this SPALT will be accomplished at POMFLANT.

Installation Schedule: SPALT to be installed in accordance with POMFLANT schedule.

MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: ROSEBUD UGM-73A (C-3)

Missile/Modification Title: Alternate MK-3 Reentry Body Nose Cap Exchange

Description/Justification: The MK-3 Reentry Body (REB) Nose Cap has been redesigned to increase tactical mission reliability. This redesign, incorporating the use of state-of-the-art technology and new materials, will minimize the number of deployed systems possessing a low probability of survival under certain reentry conditions.

Development Status: Development is complete. All test flights to date have been successful.

Scope of Program:

(\$000)

FY 1984 & Prior Years	FY 1985	FY 1986	FY 1987	Future Years	Total Program
\$16,550	\$3,900	\$ -0-	\$ -0-	\$ -0-	\$20,450

Basis for Cost Estimate: Material costs based upon past procurements by Union Carbide Corporation. Labor is based on prior costs and experience gained in fabrication of the previous MK-3 Nose Caps.

Method of Implementation: Factory level replacement of MK-3 REB Nose Caps with alternate nose caps is being accomplished at Lockheed Missiles and Space Company, Sunnyvale, California.

Installation Schedule: The alternate MK-3 Nose Caps will be installed concurrent with the Limited Life Component Exchange schedules.

MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy
 Missile Type: POSEIDON UGM-73A (C-3)
 Missile Modification Title: Post Boost Control System (PBCS) Gas Generator

Description/Justification: The propellant employed in the PBCS Mod II Gas Generator has been observed in a softened state. This condition is age-related and similar to the softening experienced in the TVC Gas Generator propellant. This SPALT entails the regaining of all units in the fleet to ensure the continued flight reliability of the POSEIDON missile.

Scope of Program:

(\$000)

	FY 1984 & Prior Years		FY 1985		FY 1986		FY 1987		Future Years		Total Program	
	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't
SPALT Qualification	-	-	-	-	-	\$ 2,606	-	-	-	-	-	\$6,000
SPALT Implementation	-	-	-	\$3,394	30	\$ 4,000	30	\$4,206	150	\$24,300	210	\$32,506
Total	-	-	-	\$3,394	30	\$ 6,606	30	\$4,206	150	\$24,300	210	\$38,506

Basis for Cost Estimate: Engineering estimates.

Method of Implementation: Return to vendor.

Installation Schedule: In accordance with POMFLANT turnaround schedule.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM-7F SPARROW III

Missile Modification Title: Battery Replacement Program

Description/Justification: Present test results indicate that low temperature operational limitations and service life expiration will require replacement of the total AIM-7F battery inventory in the near future. (75% of the inventory will have exceeded their service life by the end of 1984.)

Development Status: Under Development

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't
Procurement Kits	-	-	-	-	700	\$700	300	\$300	-	-	1,000	\$1,000

Basis of Cost Estimate: Engineering estimate

Implementation/Installation Activity: To be accomplished at the Naval Weapons Stations during rework utilizing O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: ATM-7F SPARROW III

Missile Modification Title: MK58 Rocket Motor Cookoff Protection

Description/Justification: Retrofit increases the resistance of MK58 Mods 2 and 3 rocket motors to detonation to a fire.

Development Status: Under Development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	-	-	-	-	-	-	-	-
Kits	-	-	-	-	-	1,400	282	170	118	1,570	1,570	2400

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be accomplished at Naval Weapons Stations by application of thermal coating utilizing O&N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM-7F SPARROW III

Missile Modification Title: Common Shear Wafer

Description/Justification: Presently multiple types of shear wafers are used to adapt various SPARROW missile models to different aircraft/launchers. Sheer wafer standardization will permit universal use and preclude inadvertent installation of an improper wafer.

Development Status: Under development (PMTC ECP-82M0078).

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Futura Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	-	-	500	\$100	500	\$140	-	-	-	-	1,000	\$240

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be accomplished at Naval Weapons Stations during normal rework/processing using O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM/RIM-7M SPARROW III

Missile Modification Title: All-Up-Round (AUR) container MK12 Retrofit

Description/Justification: A large quantity of excess AIM-7E MK12 cradles exist that can be readily converted to AIM/RIM-7M AUR containers. Performance of this modification will preclude purchase of a like number of new containers.

Development Status: Under development (PHTC ECP-62M0091).

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	480	\$48	340	\$34	-	-	820	\$82
Kita												

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be performed at the Naval Weapons Stations during rework utilizing O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM/EMM-7M SPARROW III

Missile Modification Title: AUR Container MK470 Retrofit

Description/Justification: Modification to the MK470 cradle is required to prevent damage to the rocket motor and handle.

Development Status: Under Development (PHTC ECP-83C001).

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	-	-	-	-	720	\$36	720	\$36	-	-	1,440	\$72

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be accomplished at the Naval Weapons Stations during normal rework utilizing O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM/RIM-7M SPARROW III

Missile Modification Title: Rocket Motor Cookoff Protection

Description/Justification: Modification incorporate a thermal coating to the MK58 rocket motor that increases its resistance to detonation in a fire.

Development Status: Under development.

Scope of Program: (Dollars in Thousands)

	FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	600	\$120	300	\$60	900	\$180
Kits	-	-	-	-	-	-	-	-	-	-

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be performed at Naval Weapons Stations utilizing O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM-7M SPARROW III

Missile Modification Title: Addition of Notch Filter

Description/Justification: Modification introduces a notch filter into the guidance control set to reduce wing buzz that alters/reduces missile optimum performance

Development Status: Under development (Forward Fit ECP-Y3077 R2).

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	400	\$400	400	\$400	400	\$400	1,200	\$1,200
Kits	-	-	-	-	-	-	-	-	-	-	-	-

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be performed at contractor facilities with O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM/XIM-7M SPARROW III

Missile Modification Title: Guidance Control (G&C) Section Access Cover Retrofit

Description/Justification: Pix is required to provide a proper seal to G&C section access covers. Guidance sections are failing seal tests because seal screw O-rings extrude through existing counter sunk holes. When access covers are removed for missile test purposes, the extruded O-rings can fall into the missile. Re-engineering access covers correct both problems.

Development Status: Engineering change (ECP-Y3055) is currently under review.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	500	\$94	500	\$95	-	-	1,000	\$189
Kits												

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be performed at Naval Weapons Stations utilizing O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM/RIM-7M SPARROW III

Missile Modification Title: MX58 Rocket Motor RF Filtered Initiator

Description/Justification: Modification introduces a newly designed RF filter/initiator and wiring harness to assure proper missile performance and conforms to Hazard Electromagnetic Radiation Ordnance (HERO) requirements.

Development Status: Complete.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	-	-	-	-	800	\$400	800	\$400	-	-	1,600	\$800

Basis of Cost Estimate: Engineering change proposa'.

Implementation/Installation Activity: Modification will be performed at Naval Weapons Stations with O&M,N funds.

**WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION**

Appropriation: Weapons Procurement, Navy

Missile Type: AIM/RIM-7M SPARROW III

Missile Modification Title: Product Improvement Program

Description/Justification: Based on operational test and evaluation of missiles delivered during FY 1980-84 and computer problem analysis, specific fixes are being developed in the areas of propulsion, arming, guidance, and control systems. This program will also include producibility changes to the missile hardware that takes advantage of growth and manufacturing technology, and will result in increased yield.

Development Status: Under development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	234	\$1,260	573	\$2,240	156	\$284	268	\$635	1,596	\$56,500	2,827	\$60,899

Basia of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: Retrofit will be performed at contractor facilities with O&M,N funda.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM-7M SPARROW III

Missile Modification Title: Common Shaar Wafer

Description/Justification: Presently multiple types of sheer wafers are used to adapt various SPARROW missile models to different aircraft/launchers. Shear wafer standardization will permit universal use and preclude inadvertent installation of an improper wafer.

Development Status: Under development (PMTC ECP-820078).

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty.	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	1,000	\$200	1,000	\$200	-	-	2,000	\$400
Fits	-	-	-	-	-	-	-	-	-	-	-	-

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be accomplished at Naval Weapons Stations during normal rework/processing utilizing O&M,N funds

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM-9 SIDEWINDER

Missile Modification Title: AIM-9H/L Obsolescence

Description/Justification: The AIM-9M is the latest version of the Sidewinder missile. The AIM-9M retains all demonstrated performance of the AIM-9L and, in addition, provides an improved infrared countermeasures (IRCCM) and target versus background discrimination capabilities. The AIM-9M has emerged as the least cost, most effective missile system to meet the expanded threat identified for the mid 1980's. To enhance Sidewinder inventory capability, current plans are to remove the AIM-9H and AIM-9L guidance sections from inventory. The SIDEWINDER missile is procured as seven separate components that are assembled into an all-up-round missile at Naval Weapons Stations. The AIM-9L and AIM-9M guidance sections are interchangeable with all other components. The AIM-9H obsolescence will require procurement of the AIM-9M guidance sections, sets of fins and safe-arming devices. The AIM-9L obsolescence will require only the AIM-9M guidance sections.

Development Status: Not applicable.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement												
Kits	2,330	\$72,366	250	\$8,660	940	\$30,317	-	-	-	-	3,520	\$111,343

Basis of Cost Estimate: AIM-9M procurement history.

Implementation/Installation Activity: Installation will take place at Naval Weapon Stations using O&M,N funding.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: AIM-9M SIDEWINDER

Missile Modification Title: Airframe Improvement Program

Description/Justification: The AIM-9M Airframe Improvement consists of several related airframe changes intended to improve reliability, producibility, and maintainability. The airframe and control system will be modified to permit removal of rollerco and use of flat plate wings. The missile body structure will be modified to increase service life under the carriage conditions of modern high performance fighter aircraft. AIM-9 production is expected to continue until mid-1990a or until the advent of the European ASRAAM.

Development Status: Analysis, design, and evaluation phase.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	-	-	3,155	\$9,704	3,415	\$10,500	6,570	\$20,204
Kits	-	-	-	-	-	-	-	-	-	-	-	-

Basic of Cost Estimate: MWC, China Lake engineering study.

Implementation/Installation Activity: In component manufacturing.

**WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION**

Appropriation: Weapons Procurement, Navy

Missile Type: PHOENIX AIM-54A

Missile Modification Title: Coldwell Retrofit

Description/Justification: Retrofit existing epoxy sealed AIM-54A coldwalls with brazed coldwalls to eliminate coolant starvation problem.

Development Status: Completed.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	218	\$703	197	\$769	192	\$780	204	\$827	789	\$2,348	1,600	\$5,927

Basis of Cost Estimate: Non-recurring cost - \$1.5.
Recurring cost per missile - \$4.1.

Implementation/Installation Activity: Kit procurement from Hughes Aircraft Co. - to be installed by NARF during normal rework cycle with O&M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: PHOENIX AIM-54A

Missile Modification Title: AIM-54A Missile Operational Life Improvement

Description/Justification: Extend the AIM-54A life and configuration improvements by replacing dependent Guidance Section parts and units having high potential for failures and units that cannot be supported without improved assemblies.

Development Status: Engineering development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amc	Qty	Amc	Qty	Amc	Qty	Amc	Qty	Amc	Qty	Amc
Procurement Kits	-	-	-	-	174	\$2,489	50	\$711	1,326	\$18,502	1,550	\$21,702

Basis of Cost Estimates: Non-recurring cost - \$644.

Recurring cost per missile - \$14.3.

Implementation/Installation Activity: Procurement from Hughes Aircraft Co. - installation at Depot with O&M, N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: PHOENIX AIM-54C

Missile Modification Title: AIM-54C Missile Operational Life Improvement

Description/Justification: Ensure the AIM-54C life by replacing dependent Guidance and Control Section parts and units having high potential for failure that cannot be supported because of poor reliability or out of production components.

Development Status: Engineering development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	-	-	26	\$3,831	100	\$9,936	20	\$1,987	153	\$16,211	299	\$31,965

Basis of Cost Estimate: Non-recurring cost - \$1.325.
Recurring cost per missile - \$99.36.

Implementation/Installation Activity: Procurement from Hughes Aircraft Co. - installation at Hughes Aircraft Company.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UCH-84

Missile Modification Title: (ECP-24R3) (AWC-231) Turbojet Engine Oil Leakage Repair.

Description/Justification: Missiles returning from the fleet are experiencing turbojet engine oil leakage, in some cases, rendering the missile unairworthy. By adding an additional housing as a component of the magnetic seal assembly used for installation of an "O" ring seal, the unpredictable oil leakage rate will be prevented. The existing magnetic seal will be modified to include the housing and "O" ring set of the existing carbon face seal.

Development Status: ECP approved and implemented.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement												
Kits A1	373	\$205.2	-	-	-	-	60	\$38.4	370	\$223.7	803	\$467.3
B1	16	-	-	-	-	-	3	-	22	-	41	-
C1	16	-	-	-	-	-	3	-	22	-	41	-
Total		\$205.2	-	-	-	-		\$38.4		\$223.7		\$467.3

Base of Cost Estimate: To be returned to the depot on a mandatory basis if the engine fails inspection procedures of AWP-126 and/or AWC-129. Also all failed sustainers will have their engines removed and this modification installed while at the depot.

Implementation/Installation Activity: To be accomplished at the Depot level (MDAC and TCAE).

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/DCM-84

Missile Modification Title: (ECP-2306R2) (AWC-256) Block IC MOD

Description/Justification: The Block IC program modifies the missile guidance unit to allow pre-launch selection of flight path and terminal homing mode. The modification will alter the missile trajectory to improve survivability, provide radar search pattern options for target selectivity, provide the capability for trajectory waypoints, and provide terminal trajectory options tailored to threat capabilities.

Development Status: ECP has been approved.

Scope of Program: (Dollars in Thousands)

	FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement										
Kits	715	\$5,303.7	430	\$3,496.0	265	\$2,359.0	344	\$3,096.0	-	-
Other	15	\$1,399.2	9	\$920.7	-	-	-	-	24	\$2,319.9
Total		\$6,702.9		\$4,416.7		\$2,359.0		\$3,096.0		\$16,574.6

Basis of Cost Estimate: Assumes mandatory return of guidance sections by the WPNSTA to the Depot. Other cost includes 3/4 Mid-course Guidance Units (MGUs) for rotatable pool to support MOD program. Assumes that 11 MGUs from ECP-1990 "Block IB" MOD will be upgraded and also utilized as part of the rotatable pool for a total rotatable pool of 35 MGUs.

Implementation/Installation Activity: To be accomplished at the Depot and Intermediate levels.

**WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION**

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UCM-84

Missile Modification Title: (ECP-2306-1R1) (AWC-263) Sustainer JP-10 Modification

Description/Justification: Modifies the sustainer section to utilize JP-10 fuel in lieu of JP-5 for extending the range of the missile.

Development Status: ECP has been approved and implemented.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement												
Kits D	180	\$69.6	-	-	-	-	-	-	-	-	180	\$69.6
Other I	480	\$240.0	328	\$164.0	331	\$192.0	61	\$37.0	-	-	1,200	\$633.0
Total	660	\$309.6	328	\$164.0	331	\$192.0	61	\$37.0	-	-	1,380	\$702.6

Basis of Cost Estimate: This modification will be performed as part (2) of "Block 1C Range Modification". This modification will be performed at the WPNSTAs. The depot only performs for failed sustainers returning from the WPNSTA.

Implementation/Installation Activity: To be accomplished at the Depot and Intermediate levels.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UCM-84

Missile Modification Title: (ECP-2425C2) (AWC-268 and -269) Improve Capsule Resistance to Corrosion

Description/Justification: Capsule environmental exposure causing high failure rates. This ECP will provide an anodize hardcoat, guide lug isolation to prevent galvanic coupling, "O" ring lubrication to increase protection from sea water, and protection for fasteners, screws and umbilical receptacle attachment inserts.

Development Status: ECP has been approved and implemented.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement												
Kits												
(AWC-268)	96	\$79.0	79	\$25.3	30	\$10.2	-	-	-	-	205	\$114.5
(AWC-269)	96	\$9.1	79	\$8.0	30	\$3.0	-	-	-	-	205	\$20.1
Total	192	\$88.1	158	\$33.3	60	\$13.2	-	-	-	-	410	\$134.6

Basis of Cost Estimate: All capsules will be retrofit as processed thru the WPNSTA during routine fleet return processing. AWC-268 will be performed on capsule mainbodies; AWC-269 will be performed on capsule aft bodies.

Implementation/Installation Activity: To be accomplished at the Intermediate level.

**WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION**

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UGM-84

Missile Modification Title: (ECP-1628RIC1) (AWC-234 and AWC-234 Part 2) Replace Capsule Fin Blades

Description/Justification: Change Navy Capsule- Fin from a casting to a machined part to provide adequate deployment strength, change finish requirements for after body components to improve corrosion resistance, and add serialization to the nose, mainbody, and aft body assemblies to provide improved quality assurance tracking.

Development Status: FCP approved and implemented.

Scope of Program: (Dollars in Thousands)

	<u>Prior Years</u>		<u>FY-1985</u>		<u>FY-1986</u>		<u>FY-1987</u>		<u>Future Years</u>		<u>Total Program</u>	
	<u>Qty</u>	<u>Am't</u>	<u>Qty</u>	<u>Am't</u>	<u>Qty</u>	<u>Am't</u>	<u>Qty</u>	<u>Am't</u>	<u>Qty</u>	<u>Am't</u>	<u>Qty</u>	<u>Am't</u>
Procurement Kits	89	\$1,077.7	38	\$486.4	-	-	-	-	13	\$175.5	140	\$1,739.6

Basis of Cost Estimate: WPNSTA install not later than next calendar/phase inspection.

Implementation/Installation Activity: To be accomplished at the Intermediate level.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: NAZPOON A/R/UCM-84

Missile Modification Title: (ECP-2499C1) (AWC-TBD) RM-1 Seeker Modification

Description/Justification: Provides the Navy with increased capabilities of the United Kingdom seeker plus modifications to improve clutter rejection capability and passive track capability resulting in improved performance in an ECM environment. The RM-1 Seeker Modification corrected a deficiency in the 642AS3700-3 seeker.

Development Status: ECP approval expected in January 1984.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't
Procurement												
Kits												
Mod of Kits	110	\$22.6	-	-	-	-	-	-	-	-	110	\$22.6
-1, -2 Kits	79	\$513.5	-	-	-	-	-	-	-	-	79	\$513.5
-3 Kits	115	\$238.0	103	\$229.0	191	\$439.0	511	\$1,242.0	33	\$83.8	953	\$2,231.8
Other	16	\$3,031.4	-	-	-	-	-	-	-	-	16	\$3,031.4
Total		\$3,805.5		\$229.0		\$439.0		\$1,242.0		\$83.8		\$5,799.3

Basis of Cost Estimate: ECP 1471R1 updated 642AS3700-1 seekers to 642AS3700-2 seekers, but has been superseded by ECP 1471R2 that updates -1 directly to -3 seekers. ECP-1812R2 updates 642AS3700-2 seekers to 642AS3700-3 seekers. Assumes retrofit only during repair until second half of the FY 1985, then mandatory retrofit of the balance concurrent with Block '1C' MCM modification. ECP-2499C1 (AWC-TBD) will supersede AWC-152. Depot to retrofit 3700-3 seekers only upon failure. Other costs in FY 1984 include 16 seekers (\$3,031.4) for rotatable pool to support the MOD program.

Implementation/Installation Activity: To be accomplished at the Depot level.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UGM-84

Missile Modification Title: (ECP-7175M1) (AWC-264) Improved Fuze

Description/Justification: Makes warhead resistant to terminal defense systems.

Development Status: ECP approved and implemented.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement												
Rits	822	\$12,292.2	659	\$10,892.0	356	\$6,154.7	60	\$1,145.4	-	-	1,897	\$30,484.3
Other	-	-	89	\$6.0	-	-	-	-	-	-	89	\$6.0
Total	-	\$12,292.2	-	\$10,898.0	-	\$6,154.7	-	\$1,145.4	-	-	-	\$30,490.3

Basis of Cost Estimate: Assumes installation by WPNSTA during recertification of fleet return missiles. Beginning in FY-85 ECP 7039R4/AWC-228 "MK 44 MOD 1 Fuze Boosters" will be installed concurrently with this retrofit.

Implementation/Installation Activity: To be accomplished at the Intermediate level.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UGM-84

Missile Modification Title: (ECP-82-3R1) (AWC-TBD) MK 607 MOD 0 Container Correction of Water Intrusion

Description/Justification: Prevents water intrusion through the threads of the bolts securing shock mounts to the lower shall. Mod requires a new thread seal (2614052-1) that has been tested and proven effective in sealing these leaks and a replacement gasket.

Development Status: PCP in development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	-	-	228	\$25.5	36	\$4.3	-	-	-	-	264	\$29.8

Basis of Cost Estimate: WPNSTA install prior to next container issue.

Implementation/Installation Activity: To be accomplished at the Intermediate level.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UCH-84

Missile Modification Title: (ECP-TBD) (AWC-TBD) Reliability and Maintainability Improvement

Description/Justification: To be utilized to retrofit reliability and maintainability missile ECPs that are projected to be submitted as a result of the warranty program. The contractor, due to the warranty provisions of the contract, will incorporate changes to improve reliability and maintainability of the missile system. This is a budgetary estimate of the costs of those revisions.

Development Status: In process.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	-	-	187	\$282.4	216	\$345.6	272	\$343.0	550	\$936.5	1,155	\$1,907.5

Basis of Cost Estimate: Based on FY-81 actual approved ECPs prorated for increasing potentially defective units due to increasing inventory each year.

Implementation/Installation Activity: To be accomplished at the Depot and Intermediate levels.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Nav;

Missile Type: HARPOON A/R/DCH-84

Missile Modification Title: (ECP-TSD) (AWC-TSD) Warhead Armor Modification

Description/Justification: This modification adds armor in the forward end of the warhead to harden the warhead to prevent fracturing the warhead explosive charge. Due to the center of gravity change, extra weight must be added to the sustainer and control sections. This will balance the missile weight.

Development Status: Under development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	-	-	586	\$3,340.2	1,694	\$10,130.0	2,280	\$13,470.2
Kits												

Basis of Cost Estimate: JPNSTA will perform on all warheads returning from the fleet except TARTAR configurations. Depot will perform modification on the sustainer and control sections.

Implementation/Installation Activity: To be accomplished at the Depot and Intermediate levels.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: HARPOON A/R/UCH-84

Missile Modification Title: (ECP-TBD) (AWC-TBD) Block 1D Modification

Description/Justification: Installation of a new memory and a modified central processing unit (CPU) board will provide improved survivability to a hostile environment.

Development Status: ECP in development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	-	-	100	\$1,000.0	230	\$2,668.0	330	\$3,668.0
Kits	-	-	-	-	-	-	-	-	-	-	-	-

Basis of Cost Estimate: Will be a follow-on modification to the Block 1C modification (ECP-2306R2).

Implementation/Installation Activity: To be accomplished at the Depot level.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: STANDARD MR-RIM-662

Missile Modification Title: MK-56 Dual Thrust Rocket Motor Modification.

Description/Justification: MK-56 Rocket Motor modification will update early production motors by removing the old propellant, refurbishing the chamber, and reloading with the new more reliable stable sustainer propellant.

Development Status: Complete.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement Kits	739	\$11,951	100	\$2,798	110	\$3,332	146	\$5,118	450	\$17,580	1545	\$40,779

Basis of Cost Estimate: Based on current procurement information.

Implementation/Installation Activity: Incorporation will be performed by Aerojet. Production leadtime is 18 months. The regrain production schedule is modified to consolidate all regrain motors in the same production lots with separate handling of new motor lots. This reduces logistic concerns of fleet returned motors. This programming also alleviates any production breaks between new motor contracts.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Waspone Procurement, Navy

Missile Type: STANDARD MR-RIM-66E

Missile Modification Title: MK 45 Mod 6 Target Detecting Device (TDD) Modification

Description/Justification: The MK 45 Mod 6 TDD will provide the missile significantly improved performance against currently deployed low altitude threats. The increasing threat spectrum has created a requirement to improve the performance of the MK-45 Mod 4 TDD. The MK-45 Mod 6 will have performance comparable to the MK-45 Mod 5 TDD employed on SM-2 BIV II. New performance features of the Mod 6 TDD include continuous (vs. stepped) pull back of the sea track gates and selectable-st-launch time delay (optimized for low altitude targets) to achieve kills at significantly lower altitudes than the Mod 4 TDD.

Development Status: Under development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	425	\$13,770	125	\$4,213	-	-	550	\$17,983
Kits												

Basis of Cost Estimate: Based on cost estimates provided by Motorola.

Implementation/Installation Activity: Incorporation of the Mod 6 TDD in the missile will be performed by the Naval Waspone Stations. The Mod 6 TDD will be substituted for the older fuzes as the missiles are returned for recertification. Production leadtime is sixteen months.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: TOMAHAWK

Missile Modification Title: TASM Digital Computer/Power Supply (OC/PS)

Description/Justification: An increased speed (30%) and memory capacity (64,000 bytes vs. 16,000 bytes) flight computer will be installed in the ACM-109B TOMAHAWK Anti-ship missile (TASM) guidance set. This increased capacity will augment TASM capabilities to operate from a wide range of launch platforms.

Development Status: Under Development

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
Procurement	-	-	-	-	96	\$2,500	80	\$2,000	-	-	176	\$4,500
Kits	-	-	-	-	-	-	-	-	-	-	-	-

Basic of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be accomplished at contractor facilities (Depot) using O6M,N funds.

WEAPONS PROCUREMENT, NAVY
MISSILE MODIFICATION

Appropriation: Weapons Procurement, Navy

Missile Type: TOMAHAWK

Missile Modification Title: Signal Certification Device (SCD)

Description/Justification: The SCD is used to preclude signals from the Weapon/Fire Control Systems from arming/firing the BGM-109A without proper identification.

Development Status: Under development.

Scope of Program: (Dollars in Thousands)

	Prior Years		FY-1985		FY-1986		FY-1987		Future Years		Total Program	
	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't	Qty	Am't
Procurement	-	-	-	-	-	-	-	\$9,700	-	\$30,200	-	\$39,900
Kits												

Basis of Cost Estimate: Engineering estimate.

Implementation/Installation Activity: To be installed at contractor facility (Depot) using O&M,N funds.