

DEPARTMENT OF THE NAVY  
FISCAL YEAR (FY) 2000/2001 BIENNIAL BUDGET  
ESTIMATES



JUSTIFICATION OF ESTIMATES  
FEBRUARY 1999

WEAPONS PROCUREMENT, NAVY  
BUDGET ACTIVITIES 1-3

UNCLASSIFIED

Department of the Navy

FY 2000/2001 Procurement Program

Exhibit P-1

APPROPRIATION: 1507N Weapons Procurement, Navy

DATE: February 1999

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 2000 UNIT COST	TOA, \$ IN MILLIONS								S E C
				-----FY 1998-----		-----FY 1999-----		-----FY 2000-----		-----FY 2001-----		
				QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	
BUDGET ACTIVITY 01: Ballistic Missiles												
-----												
Ballistic Missiles												
1	1150 Trident II	A	26,854,000	5	228.0	5	282.5	12	322.2	12	473.5	U
	Less: Advance Procurement (PY)				-10.9		-22.7		115.2		-33.6	
					-----		-----		-----		-----	
					217.1		259.8		437.5		439.9	
2	1150 Trident II	A										U
	Advance Procurement (CY)				49.5		52.6		51.4		46.4	U
	(FY 1998 for 1999) (MEMO)				6.5		-		-		-	
	(FY 1998 for 2000) (MEMO)				5.8		-		-		-	
	(FY 1998 for 2001) (MEMO)				2.6		-		-		-	
	(FY 1998 for 2002) (MEMO)				2.0		-		-		-	
	(FY 1998 for 2004) (MEMO)				3.2		-		-		-	
	(FY 1998 for 2005) (MEMO)				29.5		-		-		-	
	(FY 1999 for 2000) (MEMO)				-		17.5		-		-	
	(FY 1999 for 2001) (MEMO)				-		1.5		-		-	
	(FY 1999 for 2002) (MEMO)				-		2.1		-		-	
	(FY 1999 for 2003) (MEMO)				-		4.1		-		-	
	(FY 1999 for 2004) (MEMO)				-		22.3		-		-	
	(FY 1999 for 2005) (MEMO)				-		5.0		-		-	
	(FY 2000 for 2001) (MEMO)				-		-		19.2		-	
	(FY 2000 for 2004) (MEMO)				-		-		24.2		-	
	(FY 2000 for 2005) (MEMO)				-		-		8.0		-	
	(FY 2001 for 2002) (MEMO)				-		-		-		18.0	
	(FY 2001 for 2005) (MEMO)				-		-		-		28.4	
Support Equipment And Facilities												
3	1350 Missile Industrial Facilities	A			2.1		.2		2.2		1.2	U
					-----		-----		-----		-----	
TOTAL	Ballistic Missiles				268.7		312.6		491.1		487.5	

\* ITEMS UNDER \$50,000

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DATE: February 1999

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				-----FY 1998-----		-----FY 1999-----		-----FY 2000-----		-----FY 2001-----		
				QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	
BUDGET ACTIVITY 02: Other Missiles												
-----												
Strategic Missiles												
4	2101 Tomahawk	A	343,878		26.3		33.0	148	50.9	176	59.6	U
5	2307 ESSM	B			10.3		12.9		11.7	31	34.5	U
Tactical Missiles												
6	2206 AMRAAM	A	462,610	120	54.1	100	51.1	100	46.3	100	46.4	U
7	2230 JSOW	B	251,891	135	61.3	328	117.0	615	154.9	636	180.2	U
8	2231 SLAM-ER		680,143		-	54	39.3	56	38.1	38	30.6	U
9	2234 Standard Missile	A	2,185,352	114	176.0	120	214.2	91	198.9	112	169.0	U
10	2242 RAM	A	504,767	100	41.0	100	44.6	90	45.4	90	44.2	U
11	2254 Hellfire	A			19.8		-		-		-	U
12	2260 Penguin	A			7.3		-		-		-	U
13	2280 Aerial Targets	A			61.4		71.7		21.2		55.7	U
14	2285 Drones and Decoys	A			.3		8.3		-		-	U
15	2290 Other Missile Support	A			17.8		15.2		12.8		15.0	U

\* ITEMS UNDER \$50,000

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## Department of the Navy

## FY 2000/2001 Procurement Program

Exhibit P-1

APPROPRIATION: 1507N Weapons Procurement, Navy

DATE: February 1999

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 2000 UNIT COST	TOA, \$ IN MILLIONS								S E C
				-----FY 1998-----		-----FY 1999-----		-----FY 2000-----		-----FY 2001-----		
				QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	
Modification Of Missiles												
16	2315 Sidewinder Mods	A	391,827		.3		-	75	29.4	125	32.5	U
17	2326 Harpoon Mods	A			20.7		-		-		-	U
18	2356 Standard Missiles Mods	A			49.7		45.2		41.9		51.0	U
Support Equipment And Facilities												
19	2420 Weapons Industrial Facilities	A			30.0		26.0		20.2		8.5	U
20	2433 Fleet Satellite Comm Follow-O	A			-		-		-		177.5	U
	Less: Advance Procurement (PY)				-		-		-		-9.8	
					-		-		-		167.7	
21	2433 Fleet Satellite Comm Follow-O	A			-		-		9.8		-	U
	Advance Procurement (CY)				-		-		9.8		-	U
	(FY 2000 for 2001) (MEMO)				-		-		9.8		-	
Ordnance Support Equipment												
22	2500 Ordnance Support Equipment	A			5.1		6.2		4.1		3.3	U
TOTAL	Other Missiles				581.5		684.6		685.5		898.1	

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FY 2000/2001 Procurement Program

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APPROPRIATION: 1507N Weapons Procurement, Navy

DATE: February 1999

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 2000 UNIT COST	TOA, \$ IN MILLIONS								S E C
				-----FY 1998-----		-----FY 1999-----		-----FY 2000-----		-----FY 2001-----		
				QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	
BUDGET ACTIVITY 03: Torpedoes and Related Equipment												
-----												
Torpedoes And Related Equipment												
23	3141 ASW Targets	A			.7		4.1		2.0		3.2	U
Mod Of Torpedoes And Related Equip												
24	3215 MK-46 Torpedo Mods	A			.3		.*		28.7		25.2	U
25	3221 ISLMM				-		-		-		5.9	U
26	3225 MK-48 Torpedo ADCAP Mods	A			53.5		49.3		52.8		38.8	U
27	3231 Quickstrike Mine	B			-		-		-		2.0	U
Support Equipment												
28	3301 Torpedo Support Equipment	A			24.2		24.1		23.4		23.3	U
29	3302 ASW Range Support	A			11.5		14.5		15.2		14.6	U
Destination Transportation												
30	2410 First Destination Transportat	A			1.8		2.0		1.7		1.9	U
				-----		-----		-----		-----		
TOTAL	Torpedoes and Related Equipment				91.9		93.9		123.6		114.7	

\* ITEMS UNDER \$50,000

UNCLASSIFIED

Weapons Procurement, Navy  
Program and Financing (in Thousands of dollars)

Identification code	17-1507-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)			
		1998 actual	1999 est.	2000 est.	2001 est.
Program by activities:					
Direct program:					
00.0101	Ballistic missiles	268,697	312,613	491,068	487,492
00.0201	Other missiles	581,478	684,599	685,508	898,133
00.0301	Torpedoes and related equipment	91,920	93,912	123,629	114,728
00.0401	Other weapons	89,926	47,856	8,581	6,695
00.0601	Spares and repair parts	21,642	45,767	48,614	52,152
00.9101	Total direct program	1,053,663	1,184,747	1,357,400	1,559,200
01.0101	Reimbursable program	2,304	74,800	74,800	74,800
10.0001	Total	1,055,967	1,259,547	1,432,200	1,634,000
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	-2,304	-74,800	-74,800	-74,800
17.0001	Recovery of prior year obligations				
Unobligated balance available, start of year:					
21.4002	For completion of prior year budget plans				
21.4003	Available to finance new budget plans	-1,000	-2,000		
21.4009	Reprogramming from/to prior year budget plans	-37,783			
22.1001	Unobligated balance transferred to other accounts	24,226			
Unobligated balance available, end of year:					
24.4002	For completion of prior year budget plans				
24.4003	Available to finance subsequent year budget plans	2,000			
25.0001	Unobligated balance expiring	13,557			
39.0001	Budget authority	1,054,663	1,182,747	1,357,400	1,559,200
Budget authority:					
40.0001	Appropriation	1,101,193	1,207,419	1,357,400	1,559,200
40.3601	Appropriation rescinded (unob bal)		-2,000		
40.7601	Reduction pursuant to P.L. 105-56 (-), 8041	-21,230			
41.0001	Transferred to other accounts (-)	-25,300	-22,672		
43.0001	Appropriation (adjusted)	1,054,663	1,182,747	1,357,400	1,559,200

Weapons Procurement, Navy  
Program and Financing (in Thousands of dollars)

Obligations

Identification code	17-1507-0-1-051	1998 actual	1999 est.	2000 est.	2001 est.
-----					
Program by activities:					
Direct program:					
00.0101	Ballistic missiles	267,828	270,551	441,834	477,512
00.0201	Other missiles	618,073	623,495	631,130	849,508
00.0301	Torpedoes and related equipment	123,529	90,018	119,194	114,796
00.0401	Other weapons	98,566	53,480	20,301	9,656
00.0601	Spares and repair parts	33,789	40,369	47,210	51,246
		-----	-----	-----	-----
00.9101	Total direct program	1,141,785	1,077,913	1,259,669	1,502,718
01.0101	Reimbursable program	19,211	76,800	75,104	74,800
		-----	-----	-----	-----
10.0001	Total	1,160,996	1,154,713	1,334,773	1,577,518
-----					
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	-21,435	-74,800	-74,800	-74,800
17.0001	Recovery of prior year obligations	-7,378			
Unobligated balance available, start of year:					
21.4002	For completion of prior year budget plans	-317,294	-200,991	-305,825	-403,252
21.4003	Available to finance new budget plans	-1,000	-2,000		
21.4009	Reprogramming from/to prior year budget plans				
22.1001	Unobligated balance transferred to other accounts	24,226			
Unobligated balance available, end of year:					
24.4002	For completion of prior year budget plans	200,991	305,825	403,252	459,734
24.4003	Available to finance subsequent year budget plans	2,000			
25.0001	Unobligated balance expiring	13,557			
		-----	-----	-----	-----
39.0001	Budget authority	1,054,663	1,182,747	1,357,400	1,559,200
-----					
Budget authority:					
40.0001	Appropriation	1,101,193	1,207,419	1,357,400	1,559,200
40.3601	Appropriation rescinded (unob bal)		-2,000		
40.7601	Reduction pursuant to P.L. 105-56 (-), 8041	-21,230			
41.0001	Transferred to other accounts (-)	-25,300	-22,672		
		-----	-----	-----	-----
43.0001	Appropriation (adjusted)	1,054,663	1,182,747	1,357,400	1,559,200
-----					

Weapons Procurement, Navy  
Program and Financing (in Thousands of dollars)

Obligations

Identification code	17-1507-0-1-051	1998 actual	1999 est.	2000 est.	2001 est.
-----					
Relation of obligations to outlays:					
71.0001	Obligations incurred	1,139,561	1,079,913	1,259,973	1,502,718
72.1001	From Federal sources: Receivables and unpaid, unfilled orders, SOY	-34,608	-72,094	-72,094	-72,094
72.4001	Obligated balance, start of year	2,765,572	2,063,339	1,758,510	1,801,878
74.1001	From Federal sources: Receivables and unpaid, unfilled orders, EOY	72,094	72,094	72,094	72,094
74.4001	Obligated balance, end of year	-2,063,339	-1,758,510	-1,801,878	-1,993,412
77.0001	Adjustments in expired accounts (net)	-77,275			
78.0001	Adjustments in unexpired accounts	-7,378			
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90.0001	Outlays (net)	1,794,627	1,384,742	1,216,605	1,311,184
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Weapons Procurement, Navy  
Object Classification (in Thousands of dollars)

Identification code	17-1507-0-1-051	1998 actual	1999 est.	2000 est.	2001 est.
-----					
Direct obligations:					
125.101	Advisory and assistance services	20,842	15,151	15,551	15,803
125.201	Other services	1,712	1,814	1,268	1,252
	Purchases goods/services from Government accounts				
125.303	Purchases from revolving funds	214,156	179,783	154,231	147,264
125.701	Operation and maintenance of equipment	276	300	352	364
126.001	Supplies and materials	310,323	373,352	423,453	418,820
131.001	Equipment	594,476	507,513	664,814	919,215
		-----	-----	-----	-----
199.001	Total Direct obligations	1,141,785	1,077,913	1,259,669	1,502,718
Reimbursable obligations:					
226.001	Supplies and materials		22,768	21,566	21,900
231.001	Equipment	19,211	54,032	53,538	52,900
		-----	-----	-----	-----
299.001	Total Reimbursable obligations	19,211	76,800	75,104	74,800
		-----	-----	-----	-----
999.901	Total obligations	1,160,996	1,154,713	1,334,773	1,577,518

Comparison of FY 1999 Program Requirements as Reflected  
in the FY 1999 Budget with FY 1999 Program Requirements as  
Shown in FY 2000 Budget (In Thousands of Dollars)

	FY 1999 Total Program Requirements <u>Per FY 1999 Budget</u>	FY 1999 Program Requirements <u>Per FY 2000 Budget</u>	Increase (+) or Decrease (-)
Ballistic Missiles	323.7	312.6	-11.1
Other Missiles	832.9	684.6	-148.3
Torpedoes and Related Equipment	97.8	93.9	-3.9
Other Weapons	27.2	47.9	+20.7
Spares and Repair Parts	45.9	45.8	-0.1
Subtotal Direct Program	1,327.5	1,184.7	-142.8
Reimbursable	74.8	74.8	-
Total Fiscal Year	1,402.3	1,259.5	-142.8

## Explanation of Changes in FY 1999 Program Requirements

1. Ballistic Missiles (-\$11.1 million)  
Decrease reflects a Congressional reduction associated with Trident II missile advance procurement funding (-\$10 million), and inflation adjustments (-\$1.1 million).
2. Other Missiles (-\$148.3 million)  
Changes include Congressional adjustments to Tomahawk (-\$96.5 million) to support Tactical Tomahawk development; AMRAAM (-\$11.0 million) to reflect Raytheon and Hughes merger savings; JSOW (-\$7.5M); Standard Missile (-\$10.1 million) due to Raytheon and Hughes merger and support costs; Aerial Targets (-\$2.7 million), Drones and Decoys (+8.0 million) for additional ITALD procurement; and Weapons Industrial Facility (-\$1.0M). A reprogramming requiring Congressional approval is Evolved Seasparrow Missile (-\$22.7 million) and is also part of the change. Adjustments also include Congressional reductions to Contractor Assistance and Advisory Services (-\$2.5M) and inflation adjustments (-\$2.3 million).
3. Torpedoes and Related Equipment (-\$3.9 million)  
Changes include Congressional reductions to MK-48 Torpedo Mods (-2.2 million) and Contractor Assistance and Advisory Services (-\$0.3 million) and inflation adjustments (-\$1.4 million).
4. Other Weapons (+\$20.7 million)  
Changes reflect Congressional adjustments for Close-In-Weapons-System (+\$8.0 million) equipment upgrade kits; 5/54 Gun Mount Modifications (+\$13.0 million) to upgrade AEGIS cruisers, and Congressional Contractor Assistance and Advisory Services reduction (-\$0.2 million) and inflation adjustments (-\$0.1 million).
6. Spares & Repair Parts (\$-0.1 million)  
Change is due to inflation adjustments.

Comparison of FY 1999 Financing as Reflected in the FY 1999 Budget  
with FY 1999 Financing as Shown in FY 2000 Budget  
(In Thousands of Dollars)

	FY 1999 Financing Per <u>FY 1999 Budget</u>	FY 1999 Financing Per <u>FY 2000 Budget</u>	Increase (+) Decrease (-)
Program Requirements (Total)			
Program Requirements (Direct)	(1,327,545)	(1,184,747)	(-142,798)
Program Requirements (Reimb)	(74,800)	(74,800)	
Less:			
Anticipated Reimbursements	74,800	74,800	-
Add:			
Unob bal avail, start of year to finance new budget plans		-2,000	-2,000
Appropriation Adjusted	1,327,545	1,182,747	-144,798
Budget Authority:			
FY 1998 DoD Appropriations Act	1,327,545	1,207,419	-120,126
Transferred to other accounts		-22,672	-22,672
Appropriation (Adjusted)	1,327,545	1,182,747	-144,798

Explanation of Changes in Financing

The \$144.8 million change in program financing is the net result of Congressional specific (-\$112.0 million) and undistributed general reductions associated with inflation (-\$4.0 million) and Contractor Assistance and Advisory Services (-\$4.1 million); and Prior Approval Congressional reprogrammings associated with a revised procurement profile for the Evolved Seasparrow Missile program (-\$22.7 million); and a rescission (-\$2.0 million) assessed against the Aerial Targets program.

Comparison of FY 1998 Program Requirements as Reflected  
in the FY 1999 Budget with FY 1998 Program  
Requirements as Shown in FY 2000 Budget (In Thousands of Dollars)

	FY 1998 Total Program Requirements <u>Per FY 1999 Budget</u>	FY 1998 Total Program Requirements <u>Per FY 2000 Budget</u>	Increase (+) or Decrease (-)
Ballistic Missiles	269.8	268.7	-1.1
Other Missiles	618.9	581.5	-37.4
Torpedoes and Related Equipment	92.6	91.9	-0.7
Other Weapons	85.0	89.9	+4.9
Spares and Repair Parts	21.4	21.6	+0.2
Subtotal Direct Program	1,087.8	1,053.7	-34.1
Reimbursable	74.8	74.8	-
Total Fiscal Year	1,162.6	1,128.5	-34.1

## Explanation of Changes in FY 1998 Program Requirements

1. Ballistic Missiles (-\$1.1 million)  
Change is a result of transfer of funding to pay cancelled account requirements (-\$1.1 million).
  
2. Other Missiles (-\$37.4 million)  
The funding change reflects a reduction to Tomahawk (-\$23.1 million) to fund Tactical Tomahawk development efforts; RAM (-\$2.0 million) and First Destination Transportation (-\$0.2 million) to fund FY 1998 MPN requirements; Aerial Targets (-\$2.0 million) rescission; Harpoon Modifications (-\$9.0 million) based on Congressional disapproval of Above Threshold Reprogramming for additional SLAM-ER procurement; and minor below threshold reprogrammings.
  
3. Torpedoes and Related Equipment (-\$0.7 million)  
Change reflects minor below threshold reprogrammings for cancelled accounts.
  
4. Other Weapons (+\$4.9 million)  
Funding increase reflects minor below threshold reprogrammings primarily to support cancelled account adjustments (+\$4.8 million).
  
6. Spares & Repair Parts (+\$0.2 million)  
Change reflects a minor below threshold reprogramming for additional tactical missile initial spares.

Comparison of FY 1998 Financing as Reflected in the FY 1999 Budget  
with FY 1998 Financing as Shown in FY 2000 Budget  
(In Thousands of Dollars)

	FY 1998 Financing Per FY 1999 Budget	FY 1998 Financing Per FY 2000 Budget	Increase (+) Decrease (-)
Program Requirements (Total)	1,162,563	1,055,967	-106,596
Program Requirements (Direct)	(1,087,763)	(1,053,663)	(-34,100)
Program Requirements (Reimb)	(74,800)	(2,304)	(-72,496)
Less:			
Anticipated Reimbursements	-74,800	-2,304	+72,496
Add:			
Federal Funds (-):	-	-	-
Unob bal avail, start of year			
to finance new budget plans	-6,726	-1,000	+5,726
Unob bal transferred to other accts	6,726	24,226	+17,500
Reprogrammed from/to prior year			
budget plan:	-	-37,783	-37,783
Available to finance subsequent			
year budget:	-	2,000	+2,000
Unobligated balance expiring	-	13,557	+13,557
Appropriation Adjusted	1,087,763	1,054,663	-33,100
Budget Authority:			
FY 1998 DoD Appropriations Act	1,102,193	1,101,193	-1,000
Reduction pursuant to P.L.105-56	-21,230	-21,230	-
Transferred from other accts	6,800	-	-6,800
Transferred to other accounts		-25,300	-25,300
Appropriation (Adjusted)	1,087,763	1,054,663	-33,100

Explanation of Changes in Financing

Primary changes in program financing are a result of reductions associated with funding transferred to RDTEN to support development of Tactical Tomahawk (-\$23.1 million) and disapproval of inter-appropriation funding transfer for additional SLAM-ER procurement (-9.0 million).

<b>BUDGET ITEM JUSTIFICATION SHEET</b>	DATE FEBRUARY 1999
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<b>APPROPRIATION/BUDGET ACTIVITY</b> WEAPONS PROCUREMENT, NAVY / BUDGET ACTIVITY 1 BALLISTIC MISSILES	<b>P-1 ITEM NOMENCLATURE</b> TRIDENT II MISSILE UGM-133A (D-5)
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\$ in Millions	Prior Years	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	To Complete	Total Program
QUANTITY	350	5	5	12	12	12	12	12	5	0	425
End Cost	\$12,645.9	\$234.9	\$288.9	\$476.3	\$478.8	\$710.0	\$606.6	\$1,017.8	\$643.6	\$741.8	\$17,844.6
Less: Prior Year Adv. Proc.	(\$1,512.5)	(\$17.9)	(\$29.1)	(\$38.8)	(\$38.9)	(\$225.0)	(\$120.7)	(\$526.9)	(\$86.3)	(\$342.9)	(\$2,939.0)
Current Year Full Funding	\$11,133.4	\$217.1	\$259.8	\$437.5	\$439.9	\$485.0	\$485.9	\$490.8	\$557.2	\$398.9	\$14,905.5
Plus: Current Year Adv. Proc.	\$2,308.9	\$49.5	\$52.6	\$51.4	\$46.4	\$26.8	\$14.4	\$5.4	\$0.0	\$0.0	\$2,555.4
Plus: Initial Spares	\$27.6	\$1.7	\$5.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$34.8
Total New Obligational Authority	\$13,469.9	\$268.3	\$317.9	\$488.9	\$486.3	\$511.8	\$500.3	\$496.2	\$557.2	\$398.9	\$17,495.7
Missile Flyaway Unit Cost (1)	\$14.4	\$21.8	\$22.7	\$23.1	\$23.5	\$23.9	\$24.4	\$24.9	\$25.5	\$0.0	\$15.7

The TRIDENT II missile is carried on OHIO CLASS Fleet Ballistic Missile Submarines, ensuring that the United States continues to maintain a highly survivable strategic deterrent for the 1990s and beyond. Deployment of the TRIDENT II missile (1) enhances 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) minimizes 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 fewer submarines, and (3) balances the Triad by adding efficient hard target kill capability to the Sea Launched Ballistic Missile.

Funding in this line is required to support the procurement of an all new TRIDENT II missile, initial production of which commenced in FY 1987 and supported a TRIDENT II missile Initial Operational Capability (IOC) in March 1990.

The FY 2000 full funding request of \$437.5 million will procure missiles at the minimum sustaining rate of 12 per year necessary to maintain weapon system quality, reliability, safety, and affordability. The full funding request will support the production of 12 TRIDENT II missiles each year with associated guidance systems, additional reentry systems hardware, continued support required to maintain SWFLANT's TRIDENT II missile processing capability, and equipment procurements associated with establishing a limited TRIDENT II capability at the Strategic Weapons Facility, Pacific (SWFPAC) at Bangor WA. Funding provides for a 14 SSBN TRIDENT II program, which assumes the backfit of 4 C-4 boats to the D-5 configuration.

(1) Unit cost shown is flyaway airframe and motor unit cost of which \$2.2M for FY 2000 was funded in prior years' Advance Procurement. Costs shown in the Total New Obligational Authority line include guidance systems, warhead components, flight test instrumentation, arms control and recurring production support costs.

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<b>WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)</b>			A. WEAPONS PROCUREMENT, NAVY BUDGET ACTIVITY 1			B. UGM-133A TRIDENT II (D-5) MISSILE (3IDL)			C. LOCKHEED MARTIN MISSILES AND SPACE CO. SUNNYVALE, CA			D. FEBRUARY 1999
<b>WEAPON SYSTEM COST ELEMENTS</b>	<b>Ident. Code</b>	<b>FY 98 Unit cost</b>	<b>Qty</b>	<b>TOTAL COST</b>	<b>FY 99 Unit cost</b>	<b>Qty</b>	<b>TOTAL COST</b>	<b>FY 00 Unit cost</b>	<b>Qty</b>	<b>TOTAL COST</b>		
MISSILE H/W - RECURRING												
1	<b>AIRFRAME &amp; MOTOR FLYAWAY COST</b>	<b>21,820</b>	<b>5</b>	109,100	<b>22,720</b>	<b>5</b>	113,600	<b>23,100</b>	<b>12</b>	277,200		
2	GUIDANCE FLYAWAY COST			24,000	10,250	4	41,000	10,425	4	41,700		
3	SUBTOTAL MISSILE AND GUIDANCE FLYAWAY COST			133,100			154,600			318,900		
	<b>LESS: PRIOR YEAR ADVANCE PROCUREMENT</b>			<b>(17,851)</b>			<b>(29,074)</b>			<b>(38,840)</b>		
4	SUBTOTAL MISSILE AND GUIDANCE NEW OBLIGATIONAL AUTHORITY (NOA)			115,249			125,526			280,060		
SUPPORT COSTS												
5	WARHEAD COMPONENTS			17,863			19,439			16,250		
6	SPECIAL PURPOSE INSTRUMENTATION			10,100			20,579			26,150		
7	SPECIAL PURPOSE TOOLING & TEST EQUIPMENT			13,800			14,450			14,800		
8	INF TREATY SUPPORT			7,200			7,500			7,500		
9	ARMS CONTROL			12,800			6,700			5,300		
10	CONTAINERS			40			40			40		
11	SYSTEM INTEGRATION & PLANNING			11,450			11,500			11,750		
12	SWFLANT PRODUCTION SUPPORT			13,169			14,150			14,400		
13	SUPPORTABILITY MODS			15,397			15,700			16,150		
14	GUIDANCE PARTS PROCUREMENT			0			6,082			6,123		
15	SWFPAC PRODUCTION SUPPORT			0			3,975			16,300		
16	PRODUCTION REQUALIFICATION			0			14,150			0		
17	EOP MISSILE COSTS			0			0			9,965		
18	PIGA			0			0			12,700		
	SUBTOTAL SUPPORT COST NOA			101,819			134,265			157,428		
	<b>CURRENT YEAR FULL FUNDING</b>			<b>217,068</b>			<b>259,791</b>			<b>437,488</b>		
	<b>PLUS: CURRENT YEAR ADVANCE PROCUREMENT</b>			<b>49,533</b>			<b>52,625</b>			<b>51,400</b>		
	NET TRIDENT II COST			266,601			312,416			488,888		
	<b>PLUS: INITIAL SPARES</b>			<b>1,693</b>			<b>5,448</b>			<b>0</b>		
	<b>TOTAL NEW OBLIGATIONAL AUTHORITY</b>			<b>268,294</b>			<b>317,864</b>			<b>488,888</b>		

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BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)							DATE: FEBRUARY 1999					
B. WEAPONS PROCUREMENT NAVY BUDGET ACTIVITY 1							P-1 ITEM NOMENCLATURE: TRIDENT II MISSILE UGM-133A (D-5)					
COST ELEMENT/ FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD & TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QUANTITY	UNIT COST	SPECS AVAILABLE NOW	SPEC REV REQ'D	IF YES, WHEN AVAILABLE		
1. TRIDENT II MSL. FY 1998	LOCKHEED MARTIN MISSILES AND SPACE CO. (LMMS) SUNNYVALE, CA	SS/CPIF	STRATEGIC SYSTEMS PROGRAMS (SSP)	10/97	10/99	5	21,820	YES	NO			
FY 1999				LMMS	SS/CPIF	SSP	10/98	10/00	5	22,720	YES	NO
FY 2000				LMMS	SS/CPIF	SSP	10/99	10/01	12	23,100	YES	NO
D. REMARKS Assumes U.K. participation in FY 1998 - FY 1999.												



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FY 98/99 BUDGET PRODUCTION SCHEDULE												P-1 ITEM NOMENCLATURE: TRIDENT II MISSILE UGM - 133A (D-5)												DATE: FEBRUARY 1999													
FISCAL YEAR 2000												FISCAL YEAR 2001												FISCAL YEAR 2002												L A T E R	
CALENDAR YEAR 2000												CALENDAR YEAR 2001												CALENDAR YEAR 2002													
O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		
TRIDENT II MISSILE FY 1998 1/																																				0	
FY 1999 1/																																				0	
FY 2000																																				0	
FY 2001																																				12	
FY 2002																																				12	
FY 2003																																				12	
FY 2004																																				12	
FY 2005																																				5	
TOTAL																																				53	
O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		
REMARKS 1/ The Navy's budget estimates for D-5 missile procurement and deliveries assume U.K. participation in FY 1997 - FY 1999.																																					

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FY 98/99 BUDGET PRODUCTION SCHEDULE												P-1 ITEM NOMENCLATURE: TRIDENT II MISSILE UGM - 133A (D-5)												DATE: FEBRUARY 1999																																		
FISCAL YEAR 2003												FISCAL YEAR 2004												FISCAL YEAR 2005												L A T E R																						
CALENDAR YEAR 2003												CALENDAR YEAR 2004												CALENDAR YEAR 2005																																		
O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P																							
TRIDENT II MISSILE FY 2001												1	1	1	1	1	1	1	1	1	1	1													0																							
FY 2002																								1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0												
FY 2003																																				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
FY 2004																																																12										
FY 2005																																																5										
TOTAL												1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17								
REMARKS												O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P											



<b>BUDGET ITEM JUSTIFICATION SHEET</b>	DATE FEBRUARY 1999
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APPROPRIATION/BUDGET ACTIVITY WEAPONS PROCUREMENT, NAVY / BUDGET ACTIVITY 1 BALLISTIC MISSILES					P-1 ITEM NOMENCLATURE TRIDENT II ADVANCE PROCUREMENT						
	Prior Years	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	To Complete	Total Program
QUANTITY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cost (in millions)	\$2,308.9	\$49.5	\$52.6	\$51.4	\$46.4	\$26.8	\$14.4	\$5.4	\$0.0	\$0.0	\$2,555.4
Initial Spares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total (in Millions)	\$2,308.9	\$49.5	\$52.6	\$51.4	\$46.4	\$26.8	\$14.4	\$5.4	\$0.0	\$0.0	\$2,555.4
Unit Cost (in Millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Funding in this line item provides for the advance procurement of various components, subassemblies and raw materials which are required to support the future production and processing of TRIDENT II (D-5) missiles and MK-6 guidance systems. Total advance procurement requirements comprise two major subsets of commodity acquisition: traditional, or long lead advance procurement, which includes those items having longer manufacturing leadtimes than the using D-5 items; and production continuity advance procurement, which entails the purchase of certain critical components earlier than leadtimes alone would dictate to ensure their continuous production. These latter production continuity procurements encompass a broad range of components and materials which must be produced at minimum, uninterrupted rates on dedicated production lines as well as life-of-type or one-time quantity buys of items required to support the total planned program. The quality and homogeneity obtained by these means are essential to assure the consistent performance reliability of the missiles to be procured for the TRIDENT II program.

The FY 2000 request of \$51.4 million will provide \$19.2 million for the advance procurement of long lead items required to support the FY 2001 full funded manufacture of D-5 missiles and \$32.2 million for advance procurement of components required to maintain D-5 missile component production lines at the lowest sustaining rate consistent with quality, reliability, safety and cost.

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WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL)					FY 1998 FOR FY 1999	
(TOA, Dollars in tenths of Millions)					DATE: FEBRUARY 1999	
Weapon System Type - UGM 133A TRIDENT II Missile		First System Award Date		First System Completion Date		Interval Between System Completions
UGM 133A TRIDENT II MISSILE		FY 1987		FY 1989		
Advance Procurement/Advance Funding Items	Quantity	End Item			Unit Cost	Total Cost
		Date Contract Award Planned/Required	Delivery Date of First Equipment Required	Production Lead Time in Months (Adm/Prod)-Total		
1. CFE AIRFRAME AND MOTOR LONG LEAD	5 (see below)	10/98 *	10/00 *	9/24	1.6	8.0
AIRFRAME AND MOTOR PRODUCTION CONTINUITY						41.5
TOTAL						49.5
<p><b>Narrative Description</b></p> <p>Long Lead funding will allow for the delivery of TRIDENT II missiles in 2 versus 3 years. Long Lead items for two of the five missiles requested for the October 1998 contract were funded in FY 1997. The Department of Defense has reduced the number of missiles proposed for the October 1998 contract from seven to five. As a consequence, FY 1998 Advance Procurement will fund Long Lead items for two of the seven missiles requested for the October 1999 contract.</p> <p>Production continuity funds are required to maintain continuous production for missile motors and critical components at the lowest sustaining rate consistent with quality, reliability, safety and cost.</p> <p>* Long Lead procurements are awarded in the preceding year. The dates shown pertain to the full funded D-5 missiles to which the Long Lead will be applied.</p>						

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WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL)					FY 1999 FOR FY 2000	
(TOA, Dollars in tenths of Millions)					DATE: FEBRUARY 1999	
Weapon System Type - UGM 133A TRIDENT II Missile		First System Award Date		First System Completion Date		Interval Between System Completions
UGM 133A TRIDENT II MISSILE		FY 1987		FY 1989		
Advance Procurement/Advance Funding Items	Quantity	End Item			Unit Cost	Total Cost
		Date Contract Award Planned/Required	Delivery Date of First Equipment Required	Production Lead Time in Months (Adm/Prod)-Total		
1. CFE AIRFRAME AND MOTOR LONG LEAD	10 (see below)	10/99 *	10/01 *	9/24	1.6	16.0
AIRFRAME PRODUCTION CONTINUITY						36.6
TOTAL						52.6
<p><b>Narrative Description</b></p> <p>Long Lead funding will allow for the delivery of TRIDENT II missiles in 2 versus 3 years. Long Lead items for two of the twelve missiles requested for the October 1999 contract were funded in FY 1998.</p> <p>Production continuity funds are required to maintain continuous production for critical components at the lowest sustaining rate consistent with quality, reliability, safety and cost.</p> <p>* Long Lead procurements are awarded in the preceding year. The dates shown pertain to the full funded D-5 missiles to which the Long Lead will be applied.</p>						

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WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL)					FY 2000 FOR FY 2001	
(TOA, Dollars in tenths of Millions)					DATE: FEBRUARY 1999	
Weapon System Type -		First System Award Date		First System Completion Date		Interval Between System Completions
UGM 133A TRIDENT II MISSILE		FY 1987		FY 1989		
Advance Procurement/Advance Funding Items	Quantity	End Item			Unit Cost	Total Cost
		Date Contract Award Planned/Required	Delivery Date of First Equipment Required	Production Lead Time in Months (Adm/Prod)-Total		
1. CFE AIRFRAME AND MOTOR LONG LEAD	12	10/00 *	10/02 *	9/24	1.6	19.2
AIRFRAME PRODUCTION CONTINUITY						32.2
TOTAL						51.4
<p><b>Narrative Description</b>            Long Lead funding will allow for the delivery of TRIDENT II missiles in 2 versus 3 years.</p> <p>Production continuity funds are required to maintain continuous production for critical components at the lowest sustaining rate consistent with quality, reliability, safety and cost.</p> <p>* Long Lead procurements are awarded in the preceding year. The dates shown pertain to the full funded D-5 missiles to which the Long Lead will be applied.</p>						

<b>BUDGET ITEM JUSTIFICATION SHEET</b>	DATE FEBRUARY 1999
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APPROPRIATION/BUDGET ACTIVITY WEAPONS PROCUREMENT, NAVY / BUDGET ACTIVITY 1 BALLISTIC MISSILES					P-1 ITEM NOMENCLATURE MISSILE INDUSTRIAL FACILITIES						
	Prior Years	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	To Complete	Total Program
QUANTITY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cost (in millions)	N/A	\$2.1	\$0.2	\$2.2	\$1.2	\$1.3	\$1.3	\$1.4	\$1.4	N/A	N/A
Initial Spares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total (in Millions)	N/A	\$2.1	\$0.2	\$2.2	\$1.2	\$1.3	\$1.3	\$1.4	\$1.4	N/A	N/A
Unit Cost (in Millions)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Funding for Missile Industrial Facilities provides for capital maintenance projects at Navy-owned Naval Industrial Reserve Ordnance Plants (NIROPS) at Sunnyvale and Santa Cruz, California, and Bacchus, Utah in support of the Fleet Ballistic Missile program.

Projects planned in FY 1998 through FY 2000 include additions and modifications to, and rehabilitation of, civil works, non-severable equipment, and real property. Among those projects are upgrades and improvements such as upgrading building electrical systems, replacing conductive floors, replacing insulation, replacing water and steam piping, paving roads and parking areas and painting buildings.

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<b>WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)</b>			<b>A. WEAPONS PROCUREMENT, NAVY BUDGET ACTIVITY 1</b>		<b>B. MISSILE INDUSTRIAL FACILITIES (31DG)</b>		<b>C. LOCKHEED MARTIN MISSILES AND SPACE CO. SUNNYVALE, CA</b>		<b>FEBRUARY 1999</b>	
<b>WEAPON SYSTEM COST ELEMENTS</b>	<b>Ident. Code</b>	<b>FY 98 Unit cost</b>	<b>TOTAL Qty COST</b>	<b>FY 99 Unit cost</b>	<b>TOTAL Qty COST</b>	<b>FY 00 Unit cost</b>	<b>TOTAL Qty COST</b>			
CAPITAL MAINTENANCE			2,096		197		2,180			
TOTAL MISSILE INDUSTRIAL FACILITIES			2,096		197		2,180			



**WEAPONS PROCUREMENT, NAVY  
 FY 2000/2001 PRESIDENT'S BUDGET SUBMIT  
 MISSILE COST ANALYSIS  
 EXHIBIT P-5**

Missile Nomenclature & Popular Name: TOMAHAWK (J2EL)(PEO(CU)) (BLI: 210100)

Date: Feb-99

Cost Elements	Prior Years	FY 1998	Quantity	Total Cost	FY 1999	Quantity	Total Cost	FY 2000	Quantity	Total Cost	FY 2001	Quantity	Total Cost
	Total Cost	Quantity	Unit Cost										
<b>Missile Hardware</b>													
Previous Tomahawk Production	5,617,334												
Tactical Tomahawk	0	0	0	0	0	0	0	0	0	0	0	0	0
Remanufacture (Block III)	185,117	0						148	344	50,894	176	338	59,556
Total Hardware	5,802,451	0	0	0	0	0	0	148	344	50,894	176	338	59,556
<b>Procurement Support</b>													
Product Improvement	372,197			3,020			11,500			0			0
Systems Engineering Integration	271,878			5,850			6,000			0			0
Production Engineering	559,922			13,827			8,901			0			0
Total Procurement Support	1,203,997			22,697			26,401			0			0
Total Flyaway Cost	7,006,448			22,697			26,401			50,894			59,556
<b>Other Hardware</b>													
CCLS Submarine Capsules	0	0	0	0	0	0	0	0	0	0	0	0	0
Block II/III Parts Obsolescence Replacement	0			0			0			0			0
Total, Other Hardware	0			0			0			0			0
<b>Fleet Support</b>													
Theater Mission Planning Center	247,148			2,752			3,500			0			0
Support Equipment	113,686			419			900			0			0
Training Equipment	78,019			0			1,750			0			0
Documentation	28,988			437			450			0			0
Total Fleet Support	467,841			3,608			6,600			0			0
Gross Weapons System	7,474,289			26,305			33,001			50,894			59,556
Modifications	211,205			0			0			0			0
Initial Spares	308,873			1,387			3,161			0			0
Total Program Cost	7,994,367			27,692			36,162			50,894			59,556

CLASSIFICATION:

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BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System TOMAHAWK		A. DATE Feb-99			
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA2/Other Missiles					C. P-1 ITEM NOMENCLATURE Tomahawk (PEO(CU)) (BLI: 210100)				SUBHEAD J2EL	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE
<u>All-Up-Round</u> 01000/FY97	120	535	NAVAIR	N/A	SS/OPTION	Raytheon Missile Systems Co.	Jan 97	Oct 98	YES	N/A
01000/FY00 (Reman)	148	344	NAVAIR	N/A	SS/OPTION	Raytheon Missile Systems Co.	Jan 00	Oct 01	YES	N/A
01000/FY01 (Reman)	176	338	NAVAIR	N/A	SS/OPTION	Raytheon Missile Systems Co.	Jan 01	Oct 02	YES	N/A
D. REMARKS										



APPROPRIATION/BUDGET ACTIVITY **Weapons Procurement, Navy** Weapon System **TOMAHAWK** P-1 ITEM NOMENCLATURE **Tomahawk (PEO(CU))(BLI: 210100)**

Item	Manufacturer's Name and Location	Production Rate			Procurement Leadtimes				Total	Unit of Measure
		MSR	1-8-5	MAX	Prior to Oct 1	ALT After Oct 1	Initial Mfg PLT	Reorder Mfg PLT		
All-Up-Round	Raytheon Missiles Systems Co. Tucson, AZ	N/A	20	50	6	3	21		24	Each

ITEM / MANUFACTURER	F Y	S V C	Q T Y	D E L	B A L	FISCAL YEAR 2002												FISCAL YEAR 2003												B A L
						2001			CALENDAR YEAR 2002									CALENDAR YEAR 2003												
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	
						Remanufacture of Existing Missiles into Block III Config	2000		148	0	148	12	12	12	12	12	12	12	12	13	13	13	13							
Remanufacture of Existing Missiles into Block III Config	2001		176	0	176									I				14	14	14	15	14	15	15	15	15	15	15	15	

ITEM / MANUFACTURER	F Y	S V C	Q T Y	D E L	B A L	FISCAL YEAR 2004												FISCAL YEAR 2005												B A L
						2003			CALENDAR YEAR 2004									CALENDAR YEAR 2005												
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

Remarks: There was no FY98 procurement, nor will there be one in FY99. FY00 and FY 01 procurements consist of the remanufacture of existing missiles into the Block III configuration. Tactical Tomahawk procurement begins in FY 2002. Reman lead time is measured from contract award through (21 Months) to first delivery (an additional 120 days. In the P21, A=Contract Award, I=Induction)

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BUDGET ITEM JUSTIFICATION SHEET											February 1999	
P-40												
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE					
<b>Weapons Procurement, Navy/BA-(2) Other Missiles</b>							<b>EVOLVED SEASPARROW MISSILE #230700</b>					
Program Element for Code B Items:							Other Related Program Elements					
<b>0604755N, Proj. U0173</b>							<b>N/A</b>					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program
QUANTITY		B				36	85	161	143	161	1,490	2,076
COST (\$M)			\$10.3	\$12.9	\$11.7	\$34.5	\$60.6	\$96.0	\$84.5	\$89.9	\$832.5	\$1,235.4
Initial Spares (\$M)												\$0.0
Total (\$M)			\$10.3	\$12.9	\$11.7	\$34.5	\$60.6	\$96.0	\$84.5	\$89.9	\$832.5	\$1,235.4
Unit Cost (\$M)			N/A	N/A	N/A	1.0	0.7	0.6	0.6	0.6		0.6
 <u>ITEM DESCRIPTION/JUSTIFICATION</u>												
<p>The Evolved Seasparrow Missile (ESSM) Program is an international cooperative effort to design, develop, test, and produce a new and improved version of the NATO Seasparrow missile (RIM-7P) with the kinematic performance to defeat current and projected threats that possess low altitude, high velocity and maneuver characteristics beyond the engagement capabilities of the RIM-7P. The ESSM will provide an evolved kinematically improved aft-end missile section for mating, as an all up round, with the modified RIM-7P forebody guidance and warhead section. The ESSM improvement will provide the capability to counter maneuvering anti-ship missiles, expand battle space, and increase system firepower. The ESSM is designed for "quad pack" use in the MK41 Vertical Launching System.</p> <p>ESSM is a cooperative effort among ten NATO Seasparrow nations (Australia, Canada, Denmark, Germany, Greece, Netherlands, Norway, Spain, Turkey, and the U.S.). An addendum to the NATO Seasparrow Surface Missile System Memorandum of Understanding (MOU), covering the Engineering and Manufacturing Development (EMD) phase of the ESSM was signed in June 1995. The MOU for the cooperative production of ESSM was signed 27 December 1997.</p> <p>The FY-00 budget provides continued funding for the U.S share of production support per the MOU. ESSM RDT&amp;E funding is included in program element 0604755N, Project U0173.</p> <p>Estimates include competitive sourcing savings associated with consolidation of production support contracting efforts.</p> <p>Missile quantities in FY 01-05 are correct but differ from quantities shown on WPN P-1 exhibit. Error was discovered too late to correct WPN P-1 exhibit.</p>												

WEAPONS PROCUREMENT, NAVY  
 FY 2000/01 DEPARTMENT OF THE NAVY BUDGET  
 MISSILE COST ANALYSIS  
 EXHIBIT P-5  
 (Dollars in Thousands)

Missile Nomenclature & Popular Name: EVOLVED SEASPARROW MISSILE - 230700									Date: February 1999			
Cost Elements	FY 1998			FY 1999			FY 2000					
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost			
<b>Missile Hardware</b>												
All Up Round (w/GFE Guidance Section)												
AEGIS S-Band Uplink/Downlink												
Warhead Compatible Telemeter												
MK 25 Quadpack Canisters												
Launch Adapter Kit												
<b>Total Hardware</b>												
<b>Procurement Support</b>												
Tooling and Test Equipment			6,908			6,386						
Production Engineering			3,347			6,496			10,596			
Total Procurement Support			10,255			12,882			10,596			
<b>Total Flyaway Cost</b>			<b>10,255</b>			<b>12,882</b>			<b>10,596</b>			
<b>Fleet Support</b>												
Fleet Support/ILS									1,072			
<b>Total Fleet Support</b>									<b>1,072</b>			
Weapon System Cost			10,255			12,882			11,668			
<b>Total Program Cost</b>			<b>10,255</b>			<b>12,882</b>			<b>11,668</b>			

Exhibit P-20, Requirements Study		Approp Code/BA Weapons Procurement, Navy/BA-(2)		Subhead 12ES		Date: <b>February 1999</b>		
P-1 Line Item Nomenclature EVOLVED SEASPARROW MISSILE #230700		Admin Leadtime (after Oct 1): 01 months			Prod Leadtime: 24 months			
Project Unit/Item EVOLVED SEASPARROW MISSILE	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Buy Summary QTY		0	0	36	85	161	143	161
Unit Cost		N/A	N/A	1.0	0.7	0.6	0.6	0.6
Total Cost	10.3	12.9	11.7	34.5	60.6	96.0	84.5	89.9
<b>Asset Dynamics</b>								
Beginning Asset Position					0	0	27	91
Deliveries from all prior year funding								
Deliveries from FY 1999 funding								
Deliveries from FY 2000 funding								
Deliveries from FY 2001 funding						36		
Deliveries from subsequent years' funding							78	155
Other Gains								
Combat Losses/Usage								
Training Losses/Usage								
Test Losses/Usage						-9	-14	-26
Other Losses/Usage								
Disposals/Retirements/Attritions/etc.								
<b>End of Year Asset Positior</b>				0	0	27	91	220
Inventory Objective/Current Authorized Allowance				217	324	512	669	828
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)					
	FY-98 thru 4/98:	FY-98 thru 4/98:	FY-98 thru 4/98:					
	FY-97: 0	FY-97: 0	FY-97: 0					
	FY-96: 0	FY-96: 0	FY-96: 0					
	FY-95: 0	FY-95: 0	FY-95: 0					
<b>TOTAL:</b>	0	0	0					
<b>REMARKS:</b>								

P-1 Shopping List Item No. 5



CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET											DATE:																																																																		
P-40											FEBRUARY 1999																																																																		
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE																																																																						
<b>Weapons Procurement, Navy/BA 2 Other Missiles</b>							<b>AMRAAM</b>																																																																						
Program Element for Code B Items:							Other Related Program Elements																																																																						
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program																																																																	
QUANTITY	1,163		120	100	100	100	100	100	100	100	436	2,419																																																																	
COST (\$M)	\$907.4		\$54.1	\$51.1	\$46.3	\$46.4	\$54.8	\$55.0	\$52.8	\$54.0	\$234.6	\$1,556.5																																																																	
Initial Spares (\$M)	\$24.1		\$0.4	\$0.9	\$0.2	\$0.2	\$0.4	\$0.9	\$0.7	\$0.4	\$1.0	\$29.3																																																																	
Total (\$M)	\$931.5		\$54.5	\$52.1	\$46.5	\$46.6	\$55.3	\$55.9	\$53.5	\$54.4	\$235.6	\$1,585.8																																																																	
Unit Cost (\$M)	\$0.801		\$0.454	\$0.521	\$0.465	\$0.466	\$0.553	\$0.559	\$0.535	\$0.544	\$0.540	\$0.656																																																																	
<p>MISSION AND DESCRIPTION:</p> <p>The Advanced Medium Range Air-to Air Missile (AMRAAM) is the next generation all-weather, all-environment radar guided missile developed by the Air Force and Navy to augment the AIM-7 Sparrow. AMRAAM is smaller, faster lighter, and has improved capabilities against very low-altitude and high-altitude targets in an electronic countermeasure environment. AMRAAM incorporates an active radar in conjunction with an inertial reference unit and microcomputer system which makes the missile less dependent upon the aircraft fire control system. This advanced capability enables the pilot to aim and fire several missiles at multiple targets.</p> <p>FY2000/2001 PROGRAM JUSTIFICATION:</p> <p>100 missiles will be procured in FY 2000 and FY 2001 along with non-recurring support costs such as; government field activity technical, test, and logistics support, procurement of test articles, containers, test equipment to support the AIM-120C configuration, and procurement of peculiar support equipment.</p>																																																																													
<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Qty Summary:</td> <td style="text-align: center;"><u>FY 1998</u></td> <td style="text-align: center;"><u>FY 1999</u></td> <td style="text-align: center;"><u>FY 2000</u></td> <td style="text-align: center;"><u>FY 2001</u></td> <td style="text-align: center;"><u>FY 2002</u></td> <td style="text-align: center;"><u>FY 2003</u></td> <td style="text-align: center;"><u>FY 2004</u></td> <td style="text-align: center;"><u>FY 2005</u></td> <td colspan="4"></td> </tr> <tr> <td>Navy</td> <td style="text-align: center;">120</td> <td style="text-align: center;">100</td> <td colspan="4"></td> </tr> <tr> <td>Air Force</td> <td style="text-align: center;">173</td> <td style="text-align: center;">180</td> <td style="text-align: center;">210</td> <td style="text-align: center;">207</td> <td style="text-align: center;">226</td> <td style="text-align: center;">226</td> <td style="text-align: center;">226</td> <td style="text-align: center;">226</td> <td colspan="4"></td> </tr> <tr> <td>FMS/Other</td> <td style="text-align: center;"><u>584</u></td> <td style="text-align: center;"><u>336</u></td> <td style="text-align: center;"><u>600</u></td> <td colspan="4"></td> </tr> <tr> <td>Total</td> <td style="text-align: center;">877</td> <td style="text-align: center;">616</td> <td style="text-align: center;">910</td> <td style="text-align: center;">907</td> <td style="text-align: center;">926</td> <td style="text-align: center;">926</td> <td style="text-align: center;">926</td> <td style="text-align: center;">926</td> <td colspan="4"></td> </tr> </table>													Qty Summary:	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>					Navy	120	100	100	100	100	100	100	100					Air Force	173	180	210	207	226	226	226	226					FMS/Other	<u>584</u>	<u>336</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>					Total	877	616	910	907	926	926	926	926				
Qty Summary:	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>																																																																					
Navy	120	100	100	100	100	100	100	100																																																																					
Air Force	173	180	210	207	226	226	226	226																																																																					
FMS/Other	<u>584</u>	<u>336</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>	<u>600</u>																																																																					
Total	877	616	910	907	926	926	926	926																																																																					

Columns may not add due to rounding.

P-1 SHOPPING LIST

CLASSIFICATION:

DD Form 2454, JUN 86

ITEM NO. 6

PAGE NO 1

**UNCLASSIFIED**

**WEAPONS PROCUREMENT, NAVY  
 FY 2000/2001 PRESIDENT'S BUDGET  
 MISSILE COST ANALYSIS  
 EXHIBIT P-5  
 (Dollars in Millions)**

Missile Nomenclature & Popular Name: **AMRAAM**

Date: **FEBRUARY 1999**

Cost Elements	Prior Years	FY 1998	Quantity	120	FY 1999	Quantity	100	FY 2000	Quantity	100	FY 2001	Quantity	100
	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
<b>Missile Hardware</b>													
Guidance & Control	519.951	120	0.264	31.675	100	0.292	29.242	100	0.260	25.951	100	0.259	25.873
Propulsion	46.218	120	0.023	2.816	100	0.026	2.599	100	0.023	2.307	100	0.023	2.300
Warhead	11.554	120	0.006	0.704	100	0.007	0.650	100	0.006	0.577	100	0.006	0.575
ECO	16.803			2.968			2.224			1.442			1.436
Production Tech Support	135.195			7.998			6.796			6.363			7.450
ST&TE	40.120			0.000			0.000			0.000			0.000
Containers	2.230			0.000			0.000			0.032			0.032
Production Test	44.220			2.100			4.097			4.885			4.606
Total Flyaway Cost	816.291	120	0.402	48.261	100	0.456	45.608	100	0.416	41.557	100	0.423	42.272
<b>Fleet Support</b>													
Test Equipment	54.044			1.157			0.753			0.510			0.481
Handling Equipment	0.575			0.100			0.120			0.000			0.000
Training Equipment	3.153			0.925			0.168			0.148			0.163
ILS	31.557			3.490			4.286			3.968			3.432
Data & Pubs	1.787			0.155			0.200			0.078			0.037
Total Fleet Support	91.116			5.827			5.527			4.704			4.113
Weapon System Cost	907.407	120	0.451	54.088	100	0.511	51.135	100	0.463	46.261	100	0.464	46.385
Modifications													
Initial Spares	24.112			0.365			0.926			0.209			0.212
Total Program Cost	931.519	120	0.454	54.453	100	0.521	52.061	100	0.465	46.470	100	0.466	46.597

**WEAPONS PROCUREMENT, NAVY  
 FY 2000/2001 PRESIDENT'S BUDGET  
 MISSILE COST ANALYSIS  
 EXHIBIT P-5  
 (Dollars in Millions)**

Missile Nomenclature & Popular Name: **AMRAAM**

Date: **FEBRUARY 1999**

Cost Elements	FY 2002			FY 2003			FY 2004			FY 2005			To Complete	
	Quantity	Unit Cost	Total Cost	Costs	Total Cost									
<b>Missile Hardware</b>														
Guidance & Control	100	0.291	29.064	100	0.290	29.023	100	0.292	29.171	100	0.294	29.360	128.916	878.226
Propulsion	100	0.026	2.583	100	0.026	2.580	100	0.026	2.593	100	0.026	2.610	11.459	78.065
Warhead	100	0.006	0.646	100	0.006	0.645	100	0.006	0.648	100	0.007	0.652	2.865	19.516
ECO			1.615			1.612			1.621			1.631	7.162	38.514
Production Tech Support			9.012			7.807			5.470			5.927	12.392	204.410
ST&TE			0.000			0.000			0.000			0.000	0.224	40.344
Containers			0.032			0.032			0.032			0.000	0.000	2.390
Production Test			5.033			5.451			5.470			5.561	11.627	93.050
Total Flyaway Cost	100	0.480	47.985	100	0.472	47.150	100	0.450	45.005	100	0.457	45.741	174.645	1,354.515
<b>Fleet Support</b>														
Test Equipment			2.357			2.996			3.148			3.337	49.909	118.692
Handling Equipment			0.000			0.000			0.000			0.000	0.000	0.795
Training Equipment			0.149			0.181			0.152			0.181	0.186	5.406
ILS			4.277			4.628			4.508			4.706	9.840	74.692
Data & Pubs			0.036			0.034			0.032			0.031	0.065	2.455
Total Fleet Support			6.819			7.839			7.840			8.255	60.000	202.040
Weapon System Cost	100	0.548	54.804	100	0.550	54.989	100	0.528	52.845	100	0.540	53.996	234.645	1,556.555
Modifications														
Initial Spares			0.447			0.935			0.655			0.417	1.000	29.278
Total Program Cost	100	0.553	55.251	100	0.559	55.924	100	0.535	53.500	100	0.544	54.413	235.645	1,585.833

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System <b>AMRAAM</b>		A. DATE <b>FEBRUARY 1999</b>			
B. APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA 2 Other Missiles</b>					C. P-1 ITEM NOMENCLATURE <b>AMRAAM</b>				SUBHEAD <b>Y2GB</b>	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	TECHNICAL DATA PACKAGES AVAILABLE NOW	IF NO WHEN AVAILABLE
FY 1998	120	318	Eglin AFB, FI	10-1-97	SS/FP	Lot XII Raytheon, Tucson AZ	3/31/98	09/99	YES	
FY 1999	100	347	Eglin AFB, FI	10-1-98	SS/FP	Lot XIII Raytheon, Tucson AZ	4/30/99	10/00	YES	
FY 2000	100	303	Eglin AFB, FI	10-1-99	SS/FP	Lot XIV Raytheon, Tucson AZ	3/31/00	08/01	YES	
FY 2001	100	302	Eglin AFB, FI	10-1-00	SS/FP	Lot XV Raytheon, Tucson AZ	3/31/01	08/02	YES	
D. REMARKS										

FY 2000/2001 BUDGET PRODUCTION SCHEDULE, P-21					DATE					FEBRUARY 1999															
APPROPRIATION/BUDGET ACTIVITY					Weapon System					P-1 ITEM NOMENCLATURE															
Weapons Procurement, Navy/BA 2 Other Missiles					AMRAAM					AMRAAM															
		Production Rate			Procurement Lead-times																				
Item	Manufacturer's Name and Location				MSR	2-8-5	MAX	ALT Prior to Oct 1	ALT After Oct 1	Initial Mfg PLT	Reorder Mfg PLT	Total	Unit of Measure												
AMRAAM	Raytheon				*450	*1200	*1440	0 mo	6 mo	21 mo	18 mo	24 mo	E												
ITEM / MANUFACTURER	F Y	S V C	Q T Y	D E L	B A L	FISCAL YEAR 1997												B A L							
						1996						CALENDAR YEAR 1997							CALENDAR YEAR 1998						
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		O C T	N O V	D E C	J A N	F E B	M A R	A P R
ITEM / MANUFACTURER	F Y	S V C	Q T Y	D E L	B A L	FISCAL YEAR 1999												B A L							
						1998						CALENDAR YEAR 1999							CALENDAR YEAR 2000						
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		O C T	N O V	D E C	J A N	F E B	M A R	A P R
AMRAAM FY1997			829	0	829																				
RAYTHEON TUCSON	97	AF	72	0	72																				0
RAYTHEON TUCSON	97	N	53	0	53																				0
RAYTHEON ANDOVER	97	AF	61	0	61																				0
RAYTHEON ANDOVER	97	N	47	0	47																				0
RAYTHEON TUCSON	97	FMS	314	0	314			32		32	53	42	54	32	28	26	15								0
RAYTHEON ANDOVER	97	FMS	281	0	281				11	57	26	35	15	41	52	29	15								0
RAYTHEON ANDOVER	97	OTH	1	0	1															1					0

Remarks: \*Production rates displayed are the contractor's annual capability.









CLASSIFICATION:

**UNCLASSIFIED**

Date: February 1999

**BUDGET ITEM JUSTIFICATION SHEET  
P-40**

APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE					
<b>Weapons Procurement, Navy/BA-2 Other Missiles</b>							<b>Joint Standoff Weapon (JSOW) (Y2JS)</b>					
Program Element for Code B Items:							Other Related Program Elements					
<b>Code B - P.E. 0604727N</b>							<b>0604727F, 27324F</b>					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program
QUANTITY	100	B	135	328	615	636	748	775	785	584	13,094	17,800
COST (\$M)	\$106.2		\$61.3	\$117.0	\$155.0	\$180.2	\$219.3	\$210.5	\$186.0	\$132.2	\$3,168.0	\$4,535.6
Initial Spares (\$M)	\$0.0		\$0.0	\$0.5	\$0.1	\$0.3	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2
Total (\$M)	\$106.2		\$61.3	\$117.5	\$155.1	\$180.5	\$219.6	\$210.5	\$186.0	\$132.2	\$3,168.0	\$4,536.8
Unit Cost (\$M)	N/A		0.455	0.383	0.252	0.284	0.294	0.272	0.237	0.226	0.242	0.255

Joint Standoff Weapons (JSOW) is a joint USN/USAF program with the USN as the lead service. The JSOW program provides an air-to-ground glide weapon (AGM-154) capable of attacking a variety of targets during day, night, and adverse weather conditions for use against fixed area targets. The JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW Global Positioning System (GPS)/Inertial Navigation System (INS) capability will allow several target kills per aircraft sortie. The JSOW Baseline variant (AGM-154A) will be integrated on USN and USAF aircraft, with a Joint (A/F, USN) planned inventory of 11,800 units. USN will procure an inventory of 8,800 All-Up-Rounds (AURs) for integration on F/A-18 and AV-8B aircraft, and the USAF will procure an inventory of 3,000 AURs for integration on F-16C/D, F-15E, B-1B and B-2 aircraft. JSOW Baseline completed EMD testing, including initial Operational Test, with an exceptional test success rate of 91.3% (52 of 57). JSOW Baseline full Operational Testing (OPEVAL) was completed in July 1997. The JSOW BLU-108 variant (AGM-154B) will be integrated on USN and USAF aircraft with a joint (USAF/USN) inventory of 4,324. USN will procure an inventory of 1,200 AURs, and the USAF will procure an inventory of 3,124 AURs. JSOW BLU-108 Developmental Testing is completed. The Navy will procure 7,800 JSOW Unitary AURs, which will incorporate a 500 pound warhead, beginning in FY 2002. The JSOW Baseline (AGM 154A) will commence Full Rate Production (FRP) in FY 99 and the JSOW BLU-108 will commence Low Rate Initial Production (LRIP) in FY 00. FY 2000 funding is provided for the continuation of the Baseline full rate production and BLU-108 Low Rate Initial Production.

**WEAPONS PROCUREMENT, NAVY  
 FY 1998/99 DEPARTMENT OF THE NAVY BUDGET  
 MISSILE COST ANALYSIS  
 EXHIBIT P-5  
 (Dollars in Millions)**

**Date: February 1999**

Missile Nomenclature  
 & Popular Name: Joint Standoff Weapons (JSOW)

Cost Elements	Prior Years	FY 1998	Quantity	Total Cost	FY 1999	Quantity	Total Cost	FY 2000	Quantity	Total Cost	FY 2001	Quantity	Total Cost
	Total Cost	Quantity	Unit Cost										
<u>Missile Hardware</u>													
All Up Round (AUR)	42.221	135		50.997	328		71.463	615		120.702	636		144.803
Contractor (Warranty/ECO/Data)	0.713			1.588			5.076			9.941			10.349
<b>Total Hardware</b>	<b>42.934</b>	<b>135</b>	<b>0.391</b>	<b>52.585</b>	<b>328</b>	<b>0.233</b>	<b>76.539</b>	<b>615</b>	<b>0.212</b>	<b>130.643</b>	<b>636</b>	<b>0.244</b>	<b>155.152</b>
<u>Procurement Support</u>													
LC GEU/Control	7.386			3.847			0.000			0.000			0.000
Gov't In-house/Prod Supt	4.464			5.486			5.313			7.652			8.946
Special Tools and Test Equip	28.298			8.203			24.604			4.929			5.461
Containers	2.137			2.228			4.969			7.623			7.062
Telemetry	2.784			0.000			1.703			2.838			1.892
Command & Launch/ST&E/Mission/SW	0.76			0.907			1.527			0.500			0.926
<b>Total Procurement Support</b>	<b>45.829</b>			<b>20.671</b>			<b>38.116</b>			<b>23.542</b>			<b>24.287</b>
<b>Total Flyaway Cost</b>	<b>88.763</b>	<b>135</b>	<b>0.543</b>	<b>73.256</b>	<b>328</b>	<b>0.350</b>	<b>114.655</b>	<b>615</b>	<b>0.251</b>	<b>154.185</b>	<b>636</b>	<b>0.282</b>	<b>179.439</b>
<u>Fleet Support</u>													
ILS/Support	1.879			3.604			2.366			0.728			0.767
<b>Total Fleet Support</b>	<b>1.879</b>			<b>3.604</b>			<b>2.366</b>			<b>0.728</b>			<b>0.767</b>
<b>Weapons System Cost</b>	<b>90.642</b>	<b>135</b>	<b>0.569</b>	<b>76.860</b>	<b>328</b>	<b>0.357</b>	<b>117.021</b>	<b>615</b>	<b>0.252</b>	<b>154.913</b>	<b>636</b>	<b>0.283</b>	<b>180.206</b>
FY 97 Congressional Plus-up	<u>15.574</u>			<u>-15.574</u>									
Net P-1 Cost	106.216			61.286									
Modifications				0			0			0			0
Initial Spares				0			0.467			0.068			0.322
<b>Total Program Cost</b>	<b>106.216</b>	<b>135</b>	<b>0.454</b>	<b>61.286</b>	<b>328</b>	<b>0.358</b>	<b>117.488</b>	<b>615</b>	<b>0.252</b>	<b>154.981</b>	<b>636</b>	<b>0.284</b>	<b>180.528</b>

**WEAPONS PROCUREMENT, NAVY  
 FY 1998/99 DEPARTMENT OF THE NAVY BUDGET  
 MISSILE COST ANALYSIS  
 EXHIBIT P-5  
 (Dollars in Millions)**

Missile Nomenclature & Popular Name:

Joint Standoff Weapons (JSOW)

Date: **FEBRUARY 1999**

<u>Cost Elements</u>	<b>FY 2002</b>	Quantity		<b>FY 2003</b>	Quantity		<b>FY 2004</b>	Quantity		<b>FY 2005</b>	Quantity		To	<u>Total Cost</u>
	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>	<u>Complete Costs</u>										
<u>Missile Hardware</u>														
All Up Round (AUR)	748		172.296	775		173.820	785		160.841	584		114.089	2,736.988	3,788.220
Contractor (Warranty/ECO/Data)			13.005			14.038			7.503			5.341	139.916	207.470
Total Hardware	748	0.248	185.301	775	0.242	187.858	785	0.205	168.344	584	0.195	119.430	2,876.904	3,995.690
<u>Procurement Support</u>														
LC GEU/Control			0.000			0.000			0.000			0.000	0.000	11.233
Gov't In-house/Prod Supt			7.800			6.339			5.501			3.670	46.083	101.254
Special Tools and Test Equip			12.987			3.432			1.651			0.000	43.850	133.415
Containers			8.277			8.309			8.203			6.183	144.672	199.663
Telemetry			3.656			3.532			1.840			1.870	47.367	67.482
Command & Launch/ST&E/Mission/SW			0.500			0.553			0.000			0.565	3.370	9.608
Total Procurement Support			33.220			22.165			17.195			12.288	285.342	522.655
Total Flyaway Cost	748	0.292	218.521	775	0.271	210.023	785	0.236	185.539	584	0.226	131.718	3,162.246	4,518.345
<u>Fleet Support</u>														
ILS/Support			0.732			0.472			0.482			0.492	5.735	17.256
Total Fleet Support			0.732			0.472			0.482			0.492	5.735	17.256
Weapon System Cost	748	0.293	219.253	775	0.272	210.495	785	0.237	186.021	584	0.226	132.210	3,167.981	4,535.601
Modifications			0.000			0.000			0.000			0.000	0.000	0.000
Initial Spares			0.344			0.000			0.000			0.000	0.000	1.201
Total Program Cost	748	0.294	219.597	775	0.272	210.495	785	0.237	186.021	584	0.226	132.210	3,167.981	4,536.802

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System			DATE: FEBRUARY 1999			
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy B.A. 2-Other Missiles					C. P-1 ITEM NOMENCLATURE Joint Standoff Weapon					SUBHEAD Y2JS	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)**	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE	
LRIP/Missile Hardware FY-98	135*	391	NAVAIR	May 97	SS/FPIF	RAYTHEON SYSTEMS (Lewisville, TX)	Dec 97	Mar 99	YES	N/A	
FRP - Baseline Missile H/W*** FY-99	328	233	NAVAIR	Aug 98	SS/FFP	RAYTHEON SYSTEMS (Lewisville, TX)	Dec 98	Mar 00	YES	N/A	
FRP - Baseline/LRIP BLU-108 Missile H/W*** FY-00	615	212	NAVAIR	Aug 99	SS/FFP (option)	RAYTHEON SYSTEMS (Lewisville, TX)	Dec 99	Mar 01	YES	N/A	
FY-01	636	244	NAVAIR	Aug 00	SS/FFP (option)	RAYTHEON SYSTEMS (Lewisville, TX)	Dec 00	Mar 02	YES	N/A	
<p>D. REMARKS</p> <p>*FY 97 Congressional plus-up of \$15.6M was executed with the FY 98 procurement.</p> <p>**Reduced unit cost in Fys 99-00 reflects the introduction of USAF quantities as well as an increase in USN quantities.</p> <p>***Includes spec. tool and test equipment (not included in unit cost)</p>											





CLASSIFICATION:

**UNCLASSIFIED**

**BUDGET ITEM JUSTIFICATION SHEET  
P-40**

DATE:  
**FEBRUARY 1999**

APPROPRIATION/BUDGET ACTIVITY  
**Weapons Procurement, Navy/BA2-Other Missiles**

P-1 ITEM NOMENCLATURE  
**SLAM-ER (J2SL) (PEO-CU) (BLI: 223100)**

Program Element for Code B Items:  
**N/A**

Other Related Program Elements  
**0604603N**

	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program
QUANTITY	*		*	54	56	38	38	38	38	38	243	543
COST (\$M)	*		*	\$39.3	\$38.1	\$30.6	\$29.2	\$28.8	\$29.5	\$30.1	\$213.6	\$439.2

MISSION AND DESCRIPTION: The SLAM-Expanded Response missile modification program provides funds for Engineering Change Proposals (ECPs) and other improvements to the SLAM weapons components which are already in the inventory and requires retrofit activity to produce the SLAM EXPANDED RESPONSE missile. Additionally, exercise sections are procured to meet fleet training requirements. The SLAM ER missile with the addition of Automatic Target Acquisition (ATA), Automated Mission Planning, Real Time Target Capability, Increased Range and Flight Envelope and Increased Warhead Penetration has matured into a permanent Standoff Outside Area Defense (SOAD) weapon that will remain effective through the year 2015.

\* In FY 1998 and prior SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 232600 (Harpoon Mods). Under Budget Line Item 232600, 60 SLAMs were modified and 10 Exercise Sections were procured in FY 1997 at a total cost of \$40.1 million and 22 SLAMs were modified in FY 1998 a total cost of \$20.7 million.

P-1 SHOPPING LIST

CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AGM-84E TYPE MODIFICATION: \_\_\_\_\_ MODIFICATION TITLE: SLAM EXPANDED RESPONSE (ER)

DESCRIPTION/JUSTIFICATION:

Converts SLAM to SLAM ER configuration, increasing range, accuracy, lethality, and enhances inter-service compatibility.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: PRODUCTION

	FY 1997 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
FINANCIAL PLAN (IN MILLIONS)																							
RDT&E						5.1		1.6		2.9		3.1		4.7		4.8		4.9					27.1
INSTALLATION KITS (1) (2) (3) (4)					54	27.0	56	28.0	38	21.7	38	22.1	38	22.8	38	23.4	38	23.9	243	169.6	543	338.4	
INSTALLATION KITS NONRECURRING EQUIPMENT						0.500		0.500		0.571		0.582		0.599		0.615		0.628		0.698			
EQUIPMENT NONRECURRING						1.3		2.0		2.0		0.0		0.0		0.0		0.0		0.0			0.0
ENGINEERING CHANGE ORDERS						0.4		1.5		1.3		1.5		0.3		0.3		0.3		2.3			8.0
DATA						0.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0			0.5
TRAINING EQUIPMENT (Exercise Sections)					7	1.0	7	0.9	7	1.0	6	0.9	6	0.9	6	0.9	6	0.9	25	4.1	70	10.7	
SUPPORT EQUIPMENT (Containers)					54	0.6	56	0.7	38	0.5	38	0.5	38	0.5	38	0.5	38	0.5	243	3.5	543	7.3	
OTHER (Field Activity Support)						4.0		4.1		4.1		4.2		4.3		4.4		4.5		34.1			63.7
INTERIM CONTRACTOR SUPPORT						0.2		0.0		0.0		0.0		0.0		0.0		0.0		0.0			0.2
INSTALL COST																							0.0
ATA RETROFIT (5)					110	4.2	25	1.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	135	5.2	
TOTAL PROCUREMENT	*	*	*	*	54	39.3	56	38.1	38	30.6	38	29.2	38	28.8	38	29.5	38	30.1	243	213.6	543	439.2	

P-1 SHOPPING LIST

CLASSIFICATION:

**UNCLASSIFIED**

ITEM NO. 8 PAGE NO. 2

Note(s):

- (1) Kit consists of GFE SLAM AUR, and CFE components.
- (2) Installations costs are included in the Installation Kits line since kit costs and installation are non-severable.
- (3) Estimates costs for installation kits/installation of Hardware is effected by concurrent FMS production (Harpoon). FMS assumptions include 100 units in FY 99-TC.
- (4) SLAM ER Hardware and engineering unaffected by FMS Harpoon quantities (No commonality).
- (5) Retrofits required to convert inventory to a single configuration.

\* In FY 1998 and prior SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 232600 (Harpoon Mods). Under Budget Line Item 232600, 60 SLAMs were modified and 10 Exercise Sections were procured in FY 1997 at a total cost of \$40.1 million and 22 SLAMs were modified in FY 1998 at a total cost of \$20.7 million.

CLASSIFICATION: UNCLASSIFIED

P3A (Continued)

**INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: AGM-84E MODIFICATION TITLE: SLAM EXPANDED RESPONSE (ER)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: \_\_\_\_\_

ADMINISTRATIVE LEADTIME: 7 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1998: \*

FY 1999: Jun-99

FY 2000: May-00

FY 2001: May-01

DELIVERY DATE: FY 1998: \*

FY 1999: Jun-00

FY 2000: May-01

FY 2001: May-02

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																								
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																								
FY 2000 EQUIPMENT																								
FY 2001 EQUIPMENT																								
FY 2002 EQUIPMENT																								
FY 2003 EQUIPMENT																								
FY 2004 EQUIPMENT																								
FY 2005 EQUIPMENT																								
TO COMPLETE																								

INSTALLATION SCHEDULE:

	FY 1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	0	0	0	54	0	0	0	56	0	0	0	38	0	0	0	38	0	0	0	38	0	0	0	38	0	0	0	38	0	243	543
Out	0	0	0	0	0	0	0	5	13	18	18	15	15	14	12	10	10	9	9	10	10	9	9	10	10	9	9	10	10	299	543

\* In FY 1998 and prior SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 232600 (Harpoon Mods). Under Budget Line Item 232600, 60 SLAMs were modified and 10 Exercise Sections were procured in FY 1997 at a total cost of \$40.1 million and 22 SLAMs were modified in FY 1998 at a total cost of \$20.7 million.

1/ Input schedule reflects delivery of fleet baseline SLAM missiles to the contractor's site for modification.

P-3A

CLASSIFICATION:

**UNCLASSIFIED**

<b>P-40</b>											<b>DATE: FEBRUARY 1999</b>	
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/ BA 2</b>							P-1 ITEM NOMENCLATURE <b>STANDARD MISSILE(SM-2 MR/ER) A2FE BLI:223400</b>					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program
QUANTITY	10,182	A	88	120	91	98	127	171	206	217	1,267	12,567
COST (\$M)	\$6,441.1	A	\$176.0	\$214.2	\$198.9	\$169.0	\$219.2	\$286.9	\$326.2	\$332.2	1,663.6	10,027.3
Initial Spares (\$M)	\$150.1	A	\$1.2	\$8.2	\$13.2	\$14.9	\$16.9	\$17.6	\$15.2	\$15.0	\$60.0	312.3
Total (\$M)	\$6,591.2	A	\$177.2	\$222.4	\$212.1	\$183.9	\$236.1	\$304.5	\$341.4	\$347.2	\$ 2,930.6	\$10,339.6
Unit Cost (\$M)	0.6	A	2.0	1.9	2.3	1.9	1.9	1.8	1.7	1.6		
<p>(U)PROGRAM OVERVIEW: The STANDARD Missile SM-2 Medium Range (MR) and Extended Range (ER) are solid-propellant, tail-controlled surface-to-air missiles which are the main air defense battery for AEGIS/NTU guided missile cruisers and destroyers. The SM-2 Block IIIB and earlier variants are currently deployed.</p> <p>(U) Continually being upgraded to preserve battle group effectiveness against evolving cruise missile and Tactical Ballistic Missile (TBM) threats, SM-2 has three improvements which will be procured for AEGIS cruisers and destroyers equipped with the MK41 Vertical Launch System (VLS). The SM-2 Block IIIB configuration improves the Block IIIA baseline through the Missile Homing Improvement Program (MHIP) to address a specific type of deployed threat. SM-2 Block IV, with a new separable booster, evolves the Block IIIA baseline missile to provide greater kinematic capability and dramatic increases in performance of Block IIIA. The SM-2 Block IVA is a product improvement to the Block IV missile to provide a near term capability against TBMs with an objective of maintaining the current Block IV AAW capability.</p> <p>(U)It is the Navy's intention to use SM-2 BLK IV funding to buy SM-2 BLK IVA Missiles in FY99 based on obtaining approval for LRIP.</p> <p>* Missile quantities in FY 98, FY 01, FY 02, FY 03, FY 04 and FY 05 are correct but differ from quantities shown on WPN P-1 exhibit. Error was discovered too late to correct WPN P-1 exhibit.</p>												

**WEAPONS PROCUREMENT, NAVY  
2000 DEPARTMENT OF THE NAVY BUDGET  
MISSILE COST ANALYSIS  
EXHIBIT P-5  
(Dollars in Thousands)**

Date: FEBRUARY 1999

STANDARD MISSILE (SM-2 MR/ER)

Cost Elements	FY 1998	Quantity	Total Cost	FY 1999	Quantity	Total Cost	FY 2000	Quantity	Total Cost	Quantity	Quantity	Total Cost
	Quantity	Unit Cost		Quantity	Unit Cost		Quantity	Unit Cost		Quantity	Unit Cost	
<u>Missile Hardware</u>												
G,C&A/MK72 BOOSTER(FE001)												
AEGIS BLK IIIA	68	728.1	49,512	75	638.9	47,917	75	611.5	45,861			
AEGIS BLK IIIB	20	2,269.7	45,393	45	1,701.0	76,545						
AEGIS BLK IV							16	2727.8	43,645			
AEGIS BLK IVA												
MK104 DTRM(FE009)	88	48.5	4,269	120	55.5	6,663	91	54.2	4,932			
MK54 S&A DEVICE(FE003)	88	8.5	752	120	8.2	979	91	8.1	737			
MK45 TDD MOD 9/10(FE005)	88	110.8	9,747	120	106.3	12,755	91	93.8	8,536			
MK125 WARHEAD(FE006)	88	24.9	2,189	120	18.7	2,239	91	18.5	1,684			
Total Hardware	88	1,271.2	111,862	120	1,225.8	147,098	91	1,158.2	105,395			
<u>Procurement Support</u>												
CONTRACTOR ENGINEERING (FE830)			11,251			12,084			17,613			
GOVERNMENT IN-HOUSE ENG(FE830)			6,164			5,706			6,417			
QUALITY ASSURANCE (FE840)			2,478			2,293			4,855			
DOCUMENTATION(FE954)			1,028			1,644			3,815			
PRODUCTION PROOF (FE955)			5,074			4,880			6,841			
EVAL SERV& MAT'L(FE860)			16,539			14,471			14,554			
CONTAINERS(FE957)			1,077			1,215			2,610			
TOOLS AND TEST EQUIP(FE950)			3,627			4,356			8,902			
COMPONENT IMPROVEMENTS(FE850)			3,897			6,383			7,698			
INSTAL &CHECKOUT EQUIP(FE970)			6,144			6,328			6,633			
SPEC HANDL EQUIP(FE971)			408			1,574			2,185			
TRNG MTL EXP & NON-EXP(FE972)			4,057			3,766			5,991			
FLEET DOCUMENTATION(FE973)			1,468			1,302			2,769			
ILS(FE980)			967			1,127			2,589			
Total Procurement Support			64,179			67,129			93,472			
Total Flyaway Cost			162,997			200,130			178,700			
Fleet Support			13,044			14,097			20,167			
Total Fleet Support												
Weapon System Cost			176,041			214,227			198,867			
Modifications			0			0			-			
Initial Spares			49,680			45,153			41,927			
Initial Spares			1,162			8,176			13,153			
Total Program Cost			226,883			267,556			253,947			

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)							Weapon System			
							A. DATE			
							FEBRUARY 1999			
B. APPROPRIATION/BUDGET ACTIVITY				C. P-1 ITEM NOMENCLATURE					SUBHEAD	
Weapons Procurement, Navy/BA-2				STANDARD MISSILE (SM2 MR/ER)					A2FE	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE
UNIQUE SM2 MR/ER HARDWARE FE001 GC&A/MK72 BOOSTER										
FY98 BLK IIIB AEGIS	68	728.1	NAVSEA		SS/FFP/AF	RAYCO - TUCSON, AZ	03/98	03/00	YES	
FY98 BLK IV AEGIS	20	2,269.7	NAVSEA		SS/FFP/AF	RAYCO - TUCSON, AZ	04/98	04/00	YES	
FY99 BLK IIIB AEGIS	75	638.9	NAVSEA		SS/FFP/AF	RAYCO - TUCSON, AZ	03/99	03/01	YES	
FY99 BLK IV AEGIS	45	1,701.0	NAVSEA		SS/FFP/AF	RAYCO - TUCSON, AZ	03/99	03/01	YES	
FY00 BLK IIIB AEGIS	75	611.5	NAVSEA		SS/FFP/AF	RAYCO - TUCSON, AZ	01/00	01/02	YES	
FY00 BLK IVA AEGIS	16	2727.8	NAVSEA		SS/CPIF/AF	RAYCO - TUCSON, AZ	01/00	01/02	YES	
COMMON HARDWARE FE009 DTRM MK104										
FY98 MOD 2/3	88	48.5	NAVSEA		SS/FFP/PI	ARC-Camden,AR	05/98	10/99	YES	
FY99 MOD 2/3	120	55.5	NAVSEA		SS/FFP/PI	ARC-Camden,AR	03/99	10/00	YES	
FY00 MOD 2/3	91	54.2	NAVSEA		SS/FFP/PI	ARC-Camden,AR	03/00	10/01	YES	
FE003 SAFETY & ARMING DEVICE										
FY98 MK 54	88	8.5	NAVSEA		SS/FFP	KAMAN - Middletown,CT	12/97	10/99	YES	
FY99 MK54	120	8.2	NAVSEA		SS/FFP	KAMAN - Middletown,CT	03/99	10/00	YES	
FY00 MK54	91	8.1	NAVSEA		SS/FFP	KAMAN - Middletown,CT	03/00	10/01	YES	
D. REMARKS										

# UNCLASSIFIED

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System		A. DATE FEBRUARY 1999				
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/BA-2					C. P-1 ITEM NOMENCLATURE STANDARD MISSILE (SM2 MR/ER)					SUBHEAD A2FE	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE	
COMMON HARDWARE(cont)											
FE005 ORDNANCE											
MK45 TDD											
FY98 MOD 9/10	88	110.8	NAVSEA		SS/FFP/PI	MOTOROLA,Scottsdale,AZ	01/99	10/99	YES		
FY99 MOD 9/10	120	106.3	NAVSEA		SS/FFP/PI	MOTOROLA,Scottsdale,AZ	06/99	10/00	YES		
FY00 MOD 9/10	91	93.8	NAVSEA		SS/FFP/PI	MOTOROLA,Scottsdale,AZ	06/00	10/01	YES		
FE006 WARHEAD											
FY98 MK 125	88	24.9	NAVSEA		SS/FFP	HERCULES - Magna,UT	07/98	10/99	YES		
FY99 MK 125	120	18.7	NAVSEA		SS/FFP	HERCULES - Magna,UT	04/99	10/00	YES		
FY00 MK 125	91	18.5	NAVSEA		SS/FFP	HERCULES - Magna,UT	04/00	10/02	YES		
D. REMARKS											







BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA-2</b>					P-1 ITEM NOMENCLATURE <b>RIM 116A - ROLLING AIRFRAME MISSILE (RAM)-2242</b>					
Program Element for Code B Items: 0604755N					Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
QUANTITY	N/A	B	100	100	90	90	155	180	230	205
COST (\$M)	N/A		\$41.0	\$44.6	\$45.4	\$44.2	\$82.9	\$91.8	\$89.0	\$85.3
Initial Spares (\$M)	N/A		\$2.2	\$1.9	\$1.7	\$2.0	\$3.2	\$3.4	\$3.4	\$3.4
Total (\$M)	N/A		\$43.2	\$46.5	\$47.1	\$46.2	\$86.1	\$95.2	\$92.4	\$88.7
Unit Cost (\$M)	N/A		\$0.4	\$0.5	\$0.5	\$0.5	\$0.6	\$0.5	\$0.4	\$0.4
<p><b>ITEM DESCRIPTION/JUSTIFICATION:</b>                      Rolling Airframe Missile (RAM) is a high fire-power, low cost, lightweight complementary self-defense system to engage anti-ship missiles. It has dual-mode passive Radio Frequency/Infrared (RF/IR) guidance and will be fired from a RAM Guided Missile Launching System (MK-49) which holds 21 RAM rounds. Approval for full rate production, Milestone III was granted on 6 May 1993.</p> <p>FY98 funds will procure 60 Block 0 and 40 Block 1 Missiles.                      FY99 funds will procure 100 Block 1 Missiles.                      FY00 funds will procure 90 Block 1 Missiles.</p> <p><b>COOPERATIVE AGREEMENTS:</b>                      RAM is a NATO cooperative project with the Federal Republic of Germany. The RAM production MOU, approved and signed by the US and Germany (GE) on 3 August 1987, specifies production procedures for the Guided Missile Round Pack and coproduction of the Guided Missile Launching System. Missile limited production contracts were awarded to US (General Dynamics/Air Defense Systems Division) and German (RAM System GmbH) sources in 1989. As a result of the reduced US missile quantities and a desire to maintain production capabilities in both countries, an arrangement between the US and German producers, for single source coproduction of the German full-rate production quantities, was approved by both governments in November 1992 and this arrangement continues for U.S. rate production. In August 1992, the acquisition of General Dynamics by Hughes Aircraft Company was approved, making Hughes Missile Systems Co. the US prime contractor. In January 1998, Raytheon acquired Hughes Missile Systems Co., making Raytheon the US prime contractor.</p> <p>Estimates include competitive sourcing savings associated with consolidation of production support contracting efforts.</p>										

**WEAPONS PROCUREMENT, NAVY**  
**FY 1999/2000 DEPARTMENT OF THE NAVY BUDGET**  
**MISSILE COST ANALYSIS**  
**EXHIBIT P-5**  
(Dollars in Thousands)

**Classification: Unclassified**

Appropriation/Budget Activity			P-1 Item Nomenclature:					DATE:		
Weapons Procurement, Navy: BA-2			<b>Rolling Airframe Missile (RAM) - 24DT</b>					<b>February 1999</b>		
Cost Code	Cost Elements	FY 1998			FY 1999			FY 2000		
		Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
	<b><u>Missile Hardware</u></b>									
EF001	G&CA(INCLUDING I&A)	60	292.1	17,526						
EF001	BLOCK 1	40	350	14,000	100	350	35,000	90	342.2	30,799
EF850	COMPONENT IMPROV			597			739			1,311
EF002	PROPULSION	100	8.1	810	100	8.2	824	90	8.2	738
EF005	ORDNANCE PACK (TD)	100	33.5	3,350	100	32.6	3,259	90	33.9	3,053
EF006	WARHEAD	100	2.6	255	100	2.6	259	60	2.6	153
EF004	SAFE & ARM DEVICE	100	2.5	250	100	2.5	254	60	2.5	147
EF010	TELEMETER							30	37.2	1,115
	<b>Total Hardware</b>			<b>36,788</b>			<b>40,335</b>			<b>37,316</b>
	<b><u>Procurement Support</u></b>									
EF830	CONTRACTOR ENGIN			926			942			908
EF830	GOVT IN-HOUSE ENGIN			2,500			2,543			3,045
EF860	PRODUCTION ACCEPT			785			798			863
	<b>Total Procurement Support</b>			<b>4,211</b>			<b>4,283</b>			<b>4,816</b>
	<b><u>Non-recurring Proc Supt</u></b>									
EF950	TOOLS & TEST EQUIP									
	<b>Total Flyaway Cost</b>	<b>100</b>	<b>410.0</b>	<b>40,999</b>	<b>100</b>	<b>446.2</b>	<b>44,618</b>	<b>90</b>	<b>468.1</b>	<b>42,132</b>
	<b><u>Fleet Support</u></b>									
EF974	ILS									422
EF957	CONTAINER							200	2.9	587
EF007	CANISTERS							90	25.4	2,288
	<b>Total Fleet Support</b>									<b>3,297</b>
	Weapon System Cost			40,999			44,618			45,429
	<b>Total Program Cost</b>			<b>40,999</b>			<b>44,618</b>			<b>45,429</b>

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System			A. DATE				
<b>B. APPROPRIATION/BUDGET ACTIVITY</b> <b>Weapons Procurement, Navy/BA-2</b>					<b>C. P-1 ITEM NOMENCLATURE</b>  <b>RAM MISSILE</b>					<b>February 1999</b>  <b>SUBHEAD 12EF</b>		
										Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)
<b>EF001</b>												
GUIDANCE & CONTROL ASSEMBLY												
FY 1998												
BLOCK 0 MISSILES	60	292.1	NAVSEA	5/97	SS/FP	HMSC, TUCSON, AZ	1/98	10/99	YES			
BLOCK 1 MISSILES	40	350.0	NAVSEA	6/97	SS/CPIF	HMSC, TUCSON, AZ	1/98	10/99	YES			
FY 1999												
BLOCK 1 MISSILES	100	350.0	NAVSEA	5/98	SS/FP	RAYTHEON, TUCSON, AZ	1/99	10/00	YES			
FY 2000												
BLOCK 1 MISSILES	90	342.2	NAVSEA	5/99	SS/FP	RAYTHEON, TUCSON, AZ	1/00	10/01	YES			
<b>EF002</b>												
PROPULSION ROCKET MOTOR MK112/1												
W/ARMING & FIRING DEVICE MK 298/1												
FY 1998	100	8.1	NAVAIR	7/97	C/FP	ATLANTIC RESEARCH	11/97	7/99	YES			
FY 1999	100	8.2	NAVAIR	7/98	OPTION	COMPETITIVE	4/99	10/00	YES			
FY 2000	90	8.2	NAVAIR	7/99	OPTION	COMPETITIVE	4/99	10/01	YES			
<b>EF005</b>												
ORDANCE PACKAGE TARGET DETECTOR/MK20 MOD 2												
FY 1998	100	33.5	NAVSEA	6/97	SS/FPI	HMSC, TUCSON, AZ	11/97	1/99	YES			
FY 1999	100	32.6	NAVSEA	6/98	SS/FP	RAYTHEON, TUCSON	11/98	1/00	YES			
FY 2000	90	33.9	NAVSEA	6/99	SS/FP	RAYTHEON, TUCSON	11/99	1/01	YES			
D. REMARKS												

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System			A. DATE			
B. APPROPRIATION/BUDGET ACTIVITY					C. P-1 ITEM NOMENCLATURE					SUBHEAD 12EF	
Weapons Procurement, Navy/BA-2					<b>RAM MISSILE</b>						
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF NO WHEN AVAILABLE	
<b>EF004</b> SAFE & ARM MK 13/2											
FY 1998	100	2.5	NAVAIR	7/97	C/FP	COMPETITIVE	5/98	5/99	YES		
FY 1999	100	2.5	NAVAIR	7/98	C/FP	OPTION	11/98	11/99	YES		
FY 2000	60	2.5	NAVAIR	7/99	C/FP	OPTION	11/99	11/00	YES		
<b>EF006</b> WARHEAD WDU 17/8											
FY 1998	100	2.6	NAVAIR	7/97	C/FP	COMPETITIVE	5/98	5/99	YES		
FY 1999	100	2.6	NAVAIR	7/98	C/FP	OPTION	11/98	11/99	YES		
FY 2000	60	2.6	NAVAIR	7/99	C/FP	OPTION	11/99	11/00	YES		
<b>EF010</b> TELEMETER											
FY2000	30	37.2	NAVSEA	5/99	C/FP	COMPETITIVE	1/00	7/01	YES		
<b>EF957</b> CONTAINERS											
FY2000	200	2.9	NAVSEA	9/99	C/FP	COMPETITIVE	6/00	4/01	YES		
<b>EF007</b> CANISTERS											
FY2000	90	25.4	NAVSEA	5/99	SS/FP	RAYTHEON, TUCSON, AZ	1/00	10/01	YES		
D. REMARKS											



CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40											DATE: February 1999	
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/2 - Other Missiles</b>							P-1 ITEM NOMENCLATURE <b>HELLFIRE AGM-114K PEO(T)</b>					
Program Element for Code B Items:							Other Related Program Elements					
	Prior* Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program
QUANTITY	2,931	A	200	0	0	0	0	0	0	0	0	3,131
COST (\$M)	133.7		19.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	153.5
Initial Spares (\$M)	0.7		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Total (\$M)	134.4		20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	154.4
Unit Cost (\$M)	0.046		0.100	0	0	0	0	0	0	0	0	0.049

The Hellfire II (AGM-114K) is a laser guided missile that can be employed from land or carrier based helicopters. The AGM-114 was developed by the Army as executive service to be used as it's primary anti-armor missile for the advanced attack helicopter (AAH-64). The AGM-114K gives the USMC AH-1W helicopter the ability to penetrate modern armor with minimum exposure of the launching platform to enemy counterfire. Approval for Full Rate Production was granted in March 1986.

FY 1998 represents the final procurement of the Hellfire II for the U.S. Navy. The Hellfire II contains an electro-optical countermeasure (EOCM) seeker to defend against optical countermeasures. The missile contains a new digital autopilot and an electronic fuze for the robust warhead.

Quantities Summary	FY98	FY99	FY00
Navy	200	0	0

\*Prior year funding is for HELLFIRE II AGM-114K only and does not include HELLFIRE AGM-114B.

**WEAPONS PROCUREMENT, NAVY  
FY 1998/99 DEPARTMENT OF THE NAVY BUDGET**

**UNCLASSIFIED**

**MISSILE COST ANALYSIS  
EXHIBIT P-5  
(Dollars in Millions)**

CLASSIFICATION:

Missile Nomenclature & Popular Name:

AGM-114K (HELLFIRE II)

Date: \_\_\_\_\_

Cost Elements <u>Missile Hardware</u>	Prior Years*	FY 1998	Quantity	Total Cost	FY 1999	Quantity	Total Cost	FY 2000	Quantity	Total Cost
	Total Cost	Quantity	Unit Cost		Quantity	Unit Cost		Quantity	Unit Cost	
GC&A/Motor	77.033	200	0.04900	9.800	0.00	0.00	0.00	0.00	0.00	0.00
AUR/CATMs	21.002	100	0.02175	2.175	0.00	0.00	0.00	0.00	0.00	0.00
SAD	4.697	100	0.00435	0.435	0.00	0.00	0.00	0.00	0.00	0.00
Total Hardware	102.732		0.06205	12.410	0.00	0.00	0.00	0.00	0.00	0.00
<u>Recurring Production Support</u>										
Govt In-House	9.047	0	0.00000	3.452	0.00	0.00	0.00	0.00	0.00	0.00
Govt Test Program	3.401	0	0.00000	2.125	0.00	0.00	0.00	0.00	0.00	0.00
Contractor SE/PM	12.596	0	0.00000	0.460	0.00	0.00	0.00	0.00	0.00	0.00
Total Recurring Prod Support	25.044	0	0.00000	6.037	0.00	0.00	0.00	0.00	0.00	0.00
RECURRING FLYAWAY	127.775	200	0.09224	18.447	0.00	0.00	0.00	0.00	0.00	0.00
<u>Non-Recurring Costs</u>										
Acceptance Test Equipment	0.000	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Containers	1.702	0	0.00000	0.063	0.00	0.00	0.00	0.00	0.00	0.00
Second Source	0.000	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Product Improvement	0.000	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Recurring Costs	1.702	0	0.00000	0.063	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL MISSILE FLYAWAY	129.477	200	0.09255	18.510	0.00	0.00	0.00	0.00	0.00	0.00
<u>Fleet Support</u>										
Test Equipment	0.000	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Handling Equipment	0.694	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Training Equipment	0.466	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Data & Pubs	0.355	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Integrated Logistics Support	2.701	0	0.00000	1.310	0.00	0.00	0.00	0.00	0.00	0.00
Total Fleet Support	4.216	0	0.00000	1.310	0.00	0.00	0.00	0.00	0.00	0.00
Weapon System Cost	133.696	200	0.09910	19.820	0.00	0.00	0.00	0.00	0.00	0.00
Modifications	0.000	0	0.00000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
Initial Spares	0.714	0	0.00000	0.200	0.00	0.00	0.00	0.00	0.00	0.00
Total Program Cost	134.410	200	0.10010	20.020	0.00	0.00	0.00	0.00	0.00	0.00

\*The amount Identified against this Cost Element reflects total prior year funding associated with this cost element.

CLASSIFICATION:

**UNCLASSIFIED**

B. APPROPRIATION/BUDGET ACTIVITY					C. P-1 ITEM NOMENCLATURE				A. DATE	
Weapons Procurement, Navy/2 - Other Missiles					HELLFIRE II AGM-114K				February 1999	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE
HELLFIRE II  FY 1998	200	62.05	HUNTSVILLE, ALABAMA	18 JUNE 1998	MIPR/FFP	LOCKHEED MARTIN, HUNTSVILLE, ALABAMA HELLFIRE SYSTEMS LIMITED LIABILITY CO (HSLLC)	8/98	5/00	YES	
D. REMARKS										



CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET										DATE:	
P-40										FEBRUARY 1999	
APPROPRIATION/BUDGET ACTIVITY						P-1 ITEM NOMENCLATURE					
Weapons Procurement, Navy						PENGUIN (J2GS) PEO(CU)					
BA2 - Other Missiles											
	1997 & Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program
QUANTITY	107	4	0	0	0	0	0	0	0	0	111
COST (\$M)	\$165.1	\$7.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$172.4
Initial Spares (\$M)	\$6.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$6.4
Total (\$M)	\$171.5	\$7.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$178.8
Unit Cost (\$M)	\$1.603	\$0.984	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$0.000	\$1.553

The Penguin missile system is an Anti-Ship Missile, manufactured in Norway by Kongsberg Defense and Aerospace. The missile, designated the AGM-119B, is launched from the SH-60B LAMPS MK III helicopter operating from U.S. Navy ships. The Penguin missile is a short-to-medium range, rolling airframe, inertially guided missile with passive infrared terminal homing. The Naval Air Systems Command, PMA-258, provides total life cycle support for the Penguin missile to meet customer requirements and to support fleet operations. The Navy has procured a total of 111 AUR missiles. The planned number of Penguin capable helos and ships is 188 and 64, respectively. The last Penguin AUR missile buy for the Navy was FY 1998.

Funds support weapon fire control and launch system components, procurement of four sets of missile components which will be combined with government furnished equipment to produce 4 tactical missiles.

**UNCLASSIFIED**

**WEAPONS PROCUREMENT, NAVY**  
**FY 00/01 PRESIDENT'S BUDGET**  
**MISSILE COST ANALYSIS**  
**EXHIBIT P-5**  
**(Dollars in Millions)**

Missile Nomenclature & Popular Name: PENGUIN

Date: 2/1/99

<u>Cost Elements</u>	Prior Years	<b>FY 1998</b>	Quantity	<u>Total Cost</u>	<b>FY 1999</b>	Quantity	<u>Total Cost</u>	<b>FY 2000</b>	Quantity	<u>Total Cost</u>	<b>FY 2001</b>	Quantity	<u>Total Cost</u>
	<u>Total Cost</u>	<u>Quantity</u>	<u>Unit Cost</u>										
<u>Missile Hardware</u>													
PENGUIN MISSILE WARHEAD			4	0.149	0.596								
PENGUIN MISSILE ROCKET			4	0.067	0.268								
PENGUIN MISSILE WINGS AND CANARDS			4	0.197	0.788								
PENGUIN MISSILE FIRE CONTROL/RELEASE			13	0.280	3.640								
Total Hardware	0.000			0.693	5.292								
<u>Procurement Support</u>													
GOVT IN-HOUSE	0.000				0.908								
Total Procurement Support	0.000				0.908								
Total Flyaway Cost	0.000				0.908								
<u>Fleet Support</u>													
TRAINING EQUIPMENT	6.060												
FIELD ACTIVITY SUPPORT	0.792												
ILS SERVICES	0.000				0.437								
Total Fleet Support	6.852				0.437								
Weapon System Cost	6.852				0.685								
Modifications	0.000												
Advanced Procurement	8.977												
Various	149.235				0.000								
Initial Spares	6.388				0.000		0.000			0.000			0.000
Total Program Cost	171.452				7.322		0.000			0.000			0.000

# FISCAL YEAR 2000 PRESIDENTS BUDGET SUBMISSION

CLASSIFICATION:

## UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40					DATE: FEBRUARY 1999							
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/BA-2; OTHER MISSILES					P-1 ITEM NOMENCLATURE AERIAL TARGETS (J2EM) <span style="float: right;">PE: 0204228N / 0204162N</span>							
Program Element for Code B Items: <b>0604258N, 0605130D, 0604366N</b>					Other Related Program Elements N/A							
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	\$2538.3	A	\$61.4	\$71.7	\$21.2	\$55.7	\$57.9	\$75.1	\$91.1	\$93.2	Cont.	Cont.
<p><b>PROGRAM COVERAGE:</b></p> <p>The Aerial Targets Program provides powered targets, towed targets and necessary Target Auxiliary and Augmentation Systems (TA/AS) equipment for fleet training, and weapons systems test and evaluation. This program is comprised of a series of continuing target production programs.</p> <p><b>JUSTIFICATION OF BUDGET YEAR REQUIREMENTS:</b></p> <p>In Fiscal Years 2000, major efforts include the procurement of the Supersonic Sea Skimming Target (SSST). TA/AS procurements include target command/control equipment, scoring equipment, location and identification equipment, navigation equipment, electronic countermeasures equipment, and active emitter augmentation equipment. The aerial targets and necessary TA/AS equipment provided from this program supports Navy air-to-air and surface-to-air training and weapons systems DT/OT testing.</p>												

P-1 SHOPPING LIST

CLASSIFICATION:

## UNCLASSIFIED

CLASSIFICATION:

# UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET FOR AGGREGATED ITEMS P-40a							DATE: FEBRUARY 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/BA-2 OTHER MISSILES				P-1 ITEM NOMENCLATURE AERIAL TARGETS/J2EM								
Procurement Items	ID Code	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
Anti-Air Warfare Target	A											
Quantity			50	35	0	0	15	35	35	35	Cont	Cont
Funding		155.4	10.3	10.2	0.9	0.8	1.7	4.2	4.6	5.8	Cont	Cont
Subsonic Aerial Target	A											
Quantity			116	86	0	68	60	70	145	145	Cont	Cont
Funding		307.1	36.6	30.1	3.0	25.9	23.2	27.0	42.6	43.8	Cont	Cont
Other Targets	B											
Quantity			1	10	20	20	20	29	29	27	Cont	Cont
Funding		106.3	1.7	11.8	11.6	11.5	15.3	25.6	26.3	25.3	Cont	Cont
Other Costs		1969.5	12.9	19.7	5.8	17.6	17.6	18.4	17.4	18.2	Cont	Cont
Total P-1 Funding												
Funding		2538.3	61.4	71.7	21.2	55.7	57.9	75.1	91.1	93.2	Cont	Cont

P-1 SHOPPING LIST

CLASSIFICATION:

# UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

WEAPONS SYSTEM COST ANALYSIS							B. DATE		
P-5							FEBRUARY 1999		
APPROPRIATION/BUDGET ACTIVITY				P-1 ITEM NOMENCLATURE/SUBHEAD					
WEAPONS PROCUREMENT, NAVY/BA-2 OTHER MISSILES				AERIAL TARGETS/J2EM					
COST CODE	ELEMENT OF COST	IDENT CODE	Prior Years Total Cost	FY 1998		FY 1999		FY 2000	
				QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
EM020	Anti-Air Warfare Target	A	\$155,368	50	\$10,279	35	\$10,224	0	\$850
EM030	Subsonic Aerial Target	A	\$307,135	116	\$36,594	86	30,051	0	\$2,952
EM200	OTHER TARGETS	B (1)	\$106,344	1	\$1,663	10	\$11,750	20	\$11,550
EM300	TA/AS	A	\$151,974		\$12,873		\$19,657		\$5,825
	VARIOUS (2)		\$1,817,484		\$0		\$0		\$0
<b>TOTAL</b>			<b>\$2,538,305</b>	<b>167</b>	<b>\$61,409</b>	<b>131</b>	<b>\$71,682</b>	<b>20</b>	<b>\$21,177</b>
SPARES (3)									
	Anti-Air Warfare Target		\$0		\$0		\$0		\$0
	Subsonic Aerial Target		\$125		\$115		\$210		\$0
	OTHER TARGETS		\$405		\$298		\$0		\$0
	TA/AS		\$156		\$0		\$211		\$200
	VARIOUS (2)		\$53,947		\$0		\$0		\$0
<b>TOTAL SPARES</b>			<b>\$54,633</b>		<b>\$413</b>		<b>\$421</b>		<b>\$200</b>
<b>TOTAL PROGRAM</b>			<b>\$2,592,938</b>	<b>167</b>	<b>\$61,822</b>	<b>131</b>	<b>\$72,103</b>	<b>20</b>	<b>\$21,377</b>

(1) See "Other Targets" P-5 for RDT&E and FCT program elements.

(2) The amount identified against this cost element reflects total prior year funding associated with cost elements no longer financed in FY 1998 and beyond

(3) Initial spares requirements are displayed for information purposes only and are budgeted in Budget Activity 6, Spare and Repair Parts.

**WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)**

FEBRUARY 1999

TARGET SYSTEM: ANTI-AIR WARFARE TARGET (AAW)		FISCAL YEAR 1998			FISCAL YEAR 1999			FISCAL YEAR 2000		
MANUFACTURER: RAYTHEON AIRCRAFT, WICHITA, KS	Prior Yrs Total Cost	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
COST CODE: EM020	FLYAWAY COST (\$000)									
HARDWARE: (1)										
TARGET (2)	\$100,678	50	\$144	\$7,183	35	\$156	\$5,453	0	\$0	\$0
GFM-BATTERIES	\$1,765			\$72			\$94			\$0
GFM-IRFNA (3)	\$3,470			\$221			\$146			\$0
INSTALL/MISSION KITS	\$12,905			\$309			\$685			\$0
EXTENDED PERFORMANCE KITS (4)	\$4,252			\$374			\$800			\$0
<b>TOTAL HARDWARE</b>	<b>\$123,070</b>	<b>50</b>	<b>\$163</b>	<b>\$8,159</b>	<b>35</b>	<b>\$205</b>	<b>\$7,178</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>
PROCUREMENT SUPPORT (RECURRING):										
GOVERNMENT IN-HOUSE (6)	\$9,750			\$1,490			\$1,832			\$850
DOCUMENTATION	\$2,493			\$82			\$281			\$0
GOVERNMENT TEST	\$1,994			\$109			\$131			\$0
<b>TOTAL RECURRING</b>	<b>\$14,237</b>			<b>\$1,681</b>			<b>\$2,244</b>			<b>\$850</b>
PROCUREMENT SUPPORT (NONRECURRING):										
PRODUCT IMPROVEMENT	\$13,364			\$0			\$0			\$0
SPECIAL TOOLING AND TEST EQUIPMENT	\$0			\$0			\$0			\$0
<b>TOTAL NONRECURRING</b>	<b>\$13,364</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>
<b>TOTAL FLYAWAY</b>	<b>\$150,671</b>	<b>50</b>	<b>\$197</b>	<b>\$9,840</b>	<b>35</b>	<b>\$269</b>	<b>\$9,422</b>	<b>0</b>	<b>\$0</b>	<b>\$850</b>
GROUND EQUIPMENT/FLEET SUPPORT COST:										
GROUND EQUIPMENT	\$0			\$0			\$0			\$0
INSTALL & CHECKOUT	\$0			\$0			\$0			\$0
SPECIAL HANDLING EQUIPMENT	\$0			\$0			\$0			\$0
FLEET TEST EQUIPMENT	\$469			\$0			\$0			\$0
TRAINING DEVICES	\$221			\$20			\$31			\$0
DOCUMENTATION	\$242			\$0			\$395			\$0
ILS	\$3,765			\$419			\$376			\$0
<b>TOTAL GRD EQUIP/FLEET SUP COST</b>	<b>\$4,697</b>			<b>\$439</b>			<b>\$802</b>			<b>\$0</b>
<b>WEAPONS SYSTEM COST (5)</b>	<b>\$155,368</b>	<b>50</b>	<b>\$206</b>	<b>\$10,279</b>	<b>35</b>	<b>\$292</b>	<b>\$10,224</b>	<b>0</b>	<b>\$0</b>	<b>\$850</b>
TARGETS INITIAL SPARES				\$0			\$0			\$0
<b>TOTAL PROGRAM COST</b>	<b>\$155,368</b>	<b>50</b>	<b>\$206</b>	<b>\$10,279</b>	<b>35</b>	<b>\$292</b>	<b>\$10,224</b>	<b>0</b>	<b>\$0</b>	<b>\$850</b>

P-1 SHOPPING LIST

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- (1) Price increase due to Power Supply ECP.
- (2) Procurement of Anti Air Warfare (AAW) target, Follow-on to AQM-37C, to start in FY02.
- (3) Inhibited Red Fuming Nitric Acid.
- (4) Extended performance kits are required to perform missions at altitudes from 70,000 to 100,000 feet at velocities from Mach 3 to Mach 4. Approximately 20 kits will be procured each year.
- (5) FY00 government in-house to cover production support for the deliveries scheduled in FY00.

UNCLASSIFIED

**WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)**

TARGET SYSTEM: <b>SUBSONIC AERIAL TARGET</b> MANUF: NORTHROP-GRUMMAN COST CODE: EM030 FLYAWAY COST (\$000)	Prior Yrs Total Cost	FISCAL YEAR 1998			FISCAL YEAR 1999			FISCAL YEAR 2000		
		QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
<b>HARDWARE:</b>										
TARGET (1)	\$250,472	116	\$252	\$29,214	86	\$258	\$22,208	0	0	\$0
INSTALL/MISSION KITS	\$33,039			\$4,494			\$3,707			\$0
<b>TOTAL HARDWARE</b>	<b>\$283,511</b>	<b>116</b>	<b>\$291</b>	<b>\$33,708</b>	<b>86</b>	<b>\$301</b>	<b>\$25,915</b>	<b>0</b>	<b>0</b>	<b>\$0</b>
<b>PROCUREMENT SUPPORT (RECURRING):</b>										
GOVERNMENT IN-HOUSE (2)	\$12,024			\$1,261			\$2,072			\$1,217
DOCUMENTATION	\$1,495			\$128			\$171			\$176
GOVERNMENT TEST	\$1,203			\$441			\$455			\$55
<b>TOTAL RECURRING</b>	<b>\$14,722</b>			<b>\$1,830</b>			<b>\$2,698</b>			<b>\$1,448</b>
<b>PROCUREMENT SUPPORT (NONRECURRING):</b>										
PRODUCT IMPROVEMENT	\$0			\$180			\$0			\$0
SPECIAL TOOLING AND TEST EQUIPMENT	\$0			\$0			\$0			\$0
<b>TOTAL NONRECURRING</b>	<b>\$0</b>			<b>\$180</b>			<b>\$0</b>			<b>\$0</b>
<b>TOTAL FLYAWAY</b>	<b>\$298,233</b>	<b>116</b>	<b>\$308</b>	<b>\$35,718</b>	<b>86</b>	<b>\$333</b>	<b>\$28,613</b>	<b>0</b>	<b>0</b>	<b>\$1,448</b>
<b>GROUND EQUIPMENT/FLEET SUPPORT COST:</b>										
GROUND EQUIPMENT	\$3,282			\$280			\$779			\$825
INSTALL & CHECKOUT	\$0			\$0			\$0			\$0
SPECIAL HANDLING EQUIPMENT	\$0			\$0			\$0			\$0
FLEET TEST EQUIPMENT	\$0			\$0			\$0			\$0
TRAINING DEVICES	\$222			\$40			\$36			\$37
DOCUMENTATION	\$998			\$0			\$0			\$0
ILS	\$4,400			\$556			\$623			\$642
<b>TOTAL GRD EQUIP/FLEET SUP COST</b>	<b>\$8,902</b>			<b>\$876</b>			<b>\$1,438</b>			<b>\$1,504</b>
<b>WEAPONS SYSTEM COST</b>	<b>\$307,135</b>	<b>116</b>	<b>\$315</b>	<b>\$36,594</b>	<b>86</b>	<b>\$349</b>	<b>\$30,051</b>	<b>0</b>	<b>0</b>	<b>\$2,952</b>
TARGETS INITIAL SPARES	\$125			\$115			\$210			\$0
<b>TOTAL PROGRAM COST</b>	<b>\$307,260</b>	<b>116</b>	<b>\$316</b>	<b>\$36,709</b>	<b>86</b>	<b>\$352</b>	<b>\$30,261</b>	<b>0</b>	<b>0</b>	<b>\$2,952</b>

P-1 SHOPPING LIST

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(1) FY98 quantity changed due to incorporation of VECP-187.

## WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)

FEBRUARY 1999

TARGET SYSTEM: OTHER TARGETS MANUF: VARIOUS COST CODE: EM200 FLYAWAY COST (\$000)	Prior Yrs Total Cost	FISCAL YEAR 1998			FISCAL YEAR 1999			FISCAL YEAR 2000		
		QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
<b>HARDWARE:</b>										
MQM-8G(EER) VANDAL	\$67,370	0	\$0	\$0	0		\$0	0		\$0
Supersonic Sea Skimming Target (SSST) (1)	\$7,643	0		\$0	5	\$551	\$2,755	20	\$515	\$10,300
SM-2 TARGET	\$0	0		\$0	0		\$0	0		\$0
FOREIGN NDI - SUPERSONIC (2)	\$0	1	\$725	\$725	2	\$1,491	\$2,982	0	\$0	\$0
FOREIGN NDI - SUBSONIC	\$0	0		\$0	3	\$1,491	\$4,473	0	\$0	\$0
ANCILLARY EQUIP	\$2,503			\$0			\$0			\$0
QF-4N	\$6,735									
<b>TOTAL HARDWARE</b>	<b>\$84,251</b>	<b>1</b>	<b>\$725</b>	<b>\$725</b>	<b>10</b>	<b>\$1,021</b>	<b>\$10,210</b>	<b>20</b>	<b>\$515</b>	<b>\$10,300</b>
<b>PROCUREMENT SUPPORT (RECURRING):</b>										
GOVERNMENT IN-HOUSE	\$8,505			\$938			\$1,215			\$588
DOCUMENTATION	\$1,000			\$0			\$39			\$29
GOVERNMENT TEST	\$300			\$0			\$0			\$0
<b>TOTAL RECURRING</b>	<b>\$9,805</b>			<b>\$938</b>			<b>\$1,254</b>			<b>\$617</b>
<b>PROCUREMENT SUPPORT (NONRECURRING):</b>										
PRODUCT IMPROVEMENT	\$3,726			\$0			\$0			\$0
CONTRACTOR ENGINEERING	\$1,435			\$0			\$0			\$0
TOOLING	\$0			\$0			\$0			\$0
TEST EQUIPMENT	\$0			\$0			\$0			\$0
<b>TOTAL NONRECURRING</b>	<b>\$5,161</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>
<b>TOTAL FLYAWAY</b>	<b>\$99,217</b>	<b>1</b>		<b>\$1,663</b>	<b>10</b>		<b>\$11,464</b>	<b>20</b>	<b>\$546</b>	<b>\$10,917</b>
<b>GROUND EQUIPMENT/FLEET SUPPORT COST:</b>										
GROUND EQUIPMENT	\$2,105			\$0			\$0			\$449
INSTALL & CHECKOUT	\$0			\$0			\$0			\$0
SPECIAL HANDLING EQUIPMENT	\$0			\$0			\$0			\$0
TOOLING	\$0			\$0			\$0			\$0
TEST EQUIPMENT	\$784			\$0			\$286			\$184
TRAINING DEVICES	\$64			\$0			\$0			\$0
DOCUMENTATION	\$1,665			\$0			\$0			\$0
ILS	\$2,509			\$0			\$0			\$0
<b>TOTAL GRD EQUIP/FLEET SUP COST</b>	<b>\$7,127</b>			<b>\$0</b>			<b>\$286</b>			<b>\$633</b>
<b>WEAPONS SYSTEM COST</b>	<b>\$106,344</b>	<b>1</b>		<b>\$1,663</b>	<b>10</b>		<b>\$11,750</b>	<b>20</b>	<b>\$578</b>	<b>\$11,550</b>
TARGETS INITIAL SPARES	\$405			\$298			\$0			\$0
<b>TOTAL PROGRAM COST</b>	<b>\$106,749</b>	<b>1</b>		<b>\$1,961</b>	<b>10</b>		<b>\$11,750</b>	<b>20</b>	<b>\$578</b>	<b>\$11,550</b>

P-1 SHOPPING LIST

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- (1) Supersonic Sea Skimming Target (SSST) RDT&E PE 0604258N and FCT PE 0605130D. SSST Follow-on and Air-to-Air Surface Missile to be procured starting in FY 99.
- (2) Unit price is not applicable; various items are procured under this line item. Remaining FY 98 funds transferred to EM300 to procure OTHTC system for Foreign NDI.

## WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)

FEBRUARY 1999

TARGET SYSTEM: TA/AS MANUFACTURER: VARIOUS COST CODE: EM300 FLYAWAY COST (\$000)	Prior Yrs Total Cost	FISCAL YEAR 1998			FISCAL YEAR 1999			FISCAL YEAR 2000		
		QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
<b>HARDWARE:</b>										
CDM/CONTROL EQUIPMENT	\$26,849			\$0			\$4,816			\$0
SCORING EQUIPMENT	\$16,145			\$2,156			\$2,224			\$0
LOCATION/ID EQUIP	\$11,290			\$1,604			\$1,760			\$280
ECM/EMITTER EQUIP	\$35,865			\$3,780			\$4,703			\$1,019
AUGMENT/NAVIGAT EQUIP	\$8,084			\$868			\$857			\$535
INSTALL/MISSION EQUIP	\$1,003			\$519			\$535			\$0
MOBILE SEA RANGE	\$12,868			\$0			\$0			\$0
<b>TOTAL HARDWARE</b>	<b>\$112,104</b>			<b>\$8,927</b>			<b>\$14,895</b>			<b>\$1,834</b>
<b>PROCUREMENT SUPPORT (RECURRING):</b>										
GOVERNMENT IN-HOUSE	\$23,342			\$2,558			\$3,404			\$3,991
DOCUMENTATION	\$99			\$0			\$0			\$0
GOVERNMENT TEST	\$276			\$0			\$0			\$0
<b>TOTAL RECURRING</b>	<b>\$23,717</b>			<b>\$2,558</b>			<b>\$3,404</b>			<b>\$3,991</b>
<b>PROCUREMENT SUPPORT (NONRECURRING):</b>										
PRODUCT IMPROVEMENT	\$1,300			\$0			\$0			\$0
TOOLING	\$0			\$0			\$0			\$0
TEST EQUIPMENT	\$0			\$0			\$0			\$0
<b>TOTAL NONRECURRING</b>	<b>\$1,300</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>
<b>TOTAL FLYAWAY</b>	<b>\$137,121</b>			<b>\$11,485</b>			<b>\$18,299</b>			<b>\$5,825</b>
<b>GROUND EQUIPMENT/FLEET SUPPORT COST:</b>										
GROUND EQUIPMENT	\$488			\$0			\$0			\$0
INSTALL & CHECKOUT	\$917			\$0			\$0			\$0
SPECIAL HANDLING EQUIPMENT	\$0			\$0			\$0			\$0
TOOLING	\$0			\$0			\$0			\$0
TEST EQUIPMENT	\$2,002			\$0			\$0			\$0
TRAINING DEVICES	\$419			\$25			\$25			\$0
DOCUMENTATION	\$0			\$0			\$0			\$0
ILS	\$11,027			\$1,363			\$1,333			\$0
<b>TOTAL GRD EQUIP/FLEET SUP COST</b>	<b>\$14,853</b>			<b>\$1,388</b>			<b>\$1,358</b>			<b>\$0</b>
<b>WEAPONS SYSTEM COST</b>	<b>\$151,974</b>			<b>\$12,873</b>			<b>\$19,657</b>			<b>\$5,825</b>
TARGETS INITIAL SPARES	\$156			\$0			\$211			\$200
<b>TOTAL PROGRAM COST</b>	<b>\$152,130</b>			<b>\$12,873</b>			<b>\$19,868</b>			<b>\$6,025</b>

P-1 SHOPPING LIST

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)									A. DATE FEBRUARY 1999	
B. APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA-2; Other Missiles</b>				C. P-1 ITEM NOMENCLATURE <b>AERIAL TARGETS</b>					SUBHEAD <b>J2EM</b>	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE
Anit-Air Warfare Target/FY-96	70	125	NAVAIR	8 DEC 94	C/Option	Raytheon A/C, Wichita, KS	FEB 96	JUN 97		
Anit-Air Warfare Target/FY-97	110	125	NAVAIR		C/Option	Raytheon A/C, Wichita, KS	FEB 97	JUN 98		
Anit-Air Warfare Target/FY-98	50	144	NAVAIR		C/Option	Raytheon A/C, Wichita, KS	DEC 97	JUN 99	Yes	
Anit-Air Warfare Tgt/FY-99 (1)	35	156	NAVAIR		SS/FP	Raytheon A/C, Wichita, KS	MAR 99	JUN 00	Yes	MAY 98
Subsonic Aerial Target/FY-96	120	218	NAVAIR	1 APR 95	C/FP	Northrop-Grumman, Hawthorne, CA	APR 96	JUL 97		
Subsonic Aerial Tgt/FY-96 (2)	29	242	NAVAIR		C/Option	Northrop-Grumman, Hawthorne, CA	MAR 97	JUN 98		
Subsonic Aerial Tgt/FY-97	64	242	NAVAIR		C/Option	Northrop-Grumman, Hawthorne, CA	MAR 97	JUN 98		
Subsonic Aerial Tgt/FY-98 (3)	116	252	NAVAIR		C/Option	Northrop-Grumman, Hawthorne, CA	DEC 97	MAY 99	Yes	
Subsonic Aerial Tgt/FY-99	86	258	NAVAIR		C/Option	Northrop-Grumman, Hawthorne, CA	DEC 98	APR 00	Yes	
MQM-8G(EER)/FY-96 (4)	6	434	NAWC, Point Mugu	30 NOV 94	SS/Option	Allied-Signal, Mishawaka, IN	JUL 96	OCT 97		
Supersonic Sea Skimming Target SSST/FY97 (5)	9	849	NAVAIR	14 OCT 94	SS/Option	McDonnell Douglas, St. Louis, MO	JUN 97	MAR 98	Yes	
SSST/FY-99	5	551	NAVAIR		SS/FP	McDonnell Douglas, St. Louis, MO	MAR 99	DEC 99	No	TBD
SSST/FY-00	20	515	NAVAIR		SS/Option	McDonnell Douglas, St. Louis, MO	DEC 99	OCT 00		
Foreign NDI-Supersonic/FY-98	1	725(6)	NSMA	N/A	FP	CLASSIFIED	MAR 98	NOV98	N/A	
Foreign NDI-Supersonic/FY-99	2	1,491	NSMA		Option	CLASSIFIED	FEB 99	NOV99	N/A	
Foreign NDI-Subsonic/FY-99	3	1,491	NSMA	N/A	FP	CLASSIFIED	FEB 99	NOV99	N/A	

**D. REMARKS**

- (1) The FY-99 Anti-Air Warfare Target version will include the updated avionics system (old system will be replaced due to obsolete components).
- (2) Additional units procured on FY 97 contract.
- (3) Target quantity decreased due to incorporation of VECP-187.
- (4) The MQM-8G(EER) unit price includes the incorporation of the Inertia Measurement Unit (IMU) (a reliability improvement).
- (5) Option on development contract.
- (6) Unit price for Foreign NDI program is not applicable; various items are procured under this line item.



FY 2000/2001 BUDGET PRODUCTION SCHEDULE, P-21						DATE FEBRUARY 1999																									
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/BA-2 - OTHER MISSILES						Weapon System				P-1 ITEM NOMENCLATURE AERIAL TARGETS																					
		Production Rate				Procurement Leadtimes																									
Item	Manufacturer's Name and Location					MSR	1-8-5	MAX	ALT Prior to Oct 1	ALT After Oct 1	Initial Mfg PLT	Reorder Mfg PLT	Total	Unit of Measure																	
MQM-8G	Allied-Signal, Mishawaka, IN					2	3	4			14			E																	
Supersonic Sea Skimming Tgt.	McDonnell Douglas, St Louis, MO					N/A	N/A	42+			5			E																	
FOREIGN NDI	Foreign Non-Developmental Items					N/A	N/A	N/A			N/A			N/A																	
ITEM / MANUFACTURER						FISCAL YEAR 1998														BAL											
						F Y	S V C	Q T Y	D E L	B A L	CALENDAR YEAR 1998																				
											CALENDAR YEAR 1999																				
						1997	CALENDAR YEAR 1998											CALENDAR YEAR 1999													
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L	
MQM-8G(EER)/ALLIED-SIGNAL						96	N	6	0	6	3	3																			0
Supersonic Sea Skimming Tgt./MDC						97	N	9	0	9				1																	0
Supersonic Sea Skimming Tgt./MDC						99	N	5	0	5														A							5
Foreign NDI-Supersonic/Classified						98	N	1	0	1										1											0
Foreign NDI-Supersonic/Classified						99	N	2	0	2														A							2
Foreign NDI-Subsonic/Classified						99	N	3	0	3														A							3
ITEM / MANUFACTURER						FISCAL YEAR 2000														BAL											
						F Y	S V C	Q T Y	D E L	B A L	CALENDAR YEAR 2000																				
											CALENDAR YEAR 2001																				
						1999	CALENDAR YEAR 2000											CALENDAR YEAR 2001													
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L	
Supersonic Sea Skimming Tgt./MDC						99	N	5	0	5				1		2	2														0
Supersonic Sea Skimming Tgt./MDC						00	N	20	0	20			A						1		3	4	4	4	4					0	
Foreign NDI-Supersonic/Classified						99	N	2	0	2				1																	0
Foreign NDI-Subsonic/Classified						99	N	3	0	3				1				1													0
Remarks:																															

CLASSIFICATION:

**UNCLASSIFIED**

<b>Exhibit P-20, Requirements Study</b>			APPROPRIATION/BUDGET ACTIVITY <b>WPN/BA-2 Other Missiles</b>				DATE: <b>FEBRUARY 1999</b>	
P-1 ITEM NOMENCLATURE <b>ANTI-AIR WARFARE TARGET (AAW)</b>			Admin Leadtime (after Oct1): <b>4 Months</b>			Prod Leadtime : <b>16 Months</b>		
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Buy Summary	50	35	0	0	15	35	35	35
Unit Cost (Vehicle)	.14	.16	.00	.00	.10	.10	.11	.11
Total Cost	\$7.2	\$5.5	\$0.0	\$0.0	\$1.5	\$3.6	\$3.7	\$3.8
<b>Asset Dynamics</b>								
Beginning Asset Position	122	165	224	236	224	189	169	169
Deliveries from all prior year funding	84	94	35					
Deliveries from FY 1999 funding			12	23				
Deliveries from FY 2000 funding				0	0			
Deliveries from subsequent years' funding						15	35	35
Other Gains								
Combat Losses/Usage								
Training/Test/Other Losses/Usage (1)	41	35	35	35	35	35	35	35
Disposals/Retirements/Attritions/etc.								
<b>End of Year Asset Position</b>	165	224	236	224	189	169	169	169
Inventory Objective:								
Combatant Shipfill								
Expenditures								
Training & Testing Rqmt								
Depot Maint. Pipeline								
Other-WSPD of DEC 95	140	140	140	140	140	140	140	140
Peacetime Pipeline								
TOTAL Inventory Objective:	140	140	140	140	140	140	140	140
Approved Acquisition Objective	140	140	140	140	140	140	140	140
Remarks:								
Other than Training Usage		Actual Training Expenditures						
FY 1999 thru 1/7/99: 4		FY 1998 thru 1/7/99: 3						
FY 1998: 11		FY 1998: 30						
FY 1997: 23		FY 1997: 52						
FY 1996: 35		FY 1996: 58						
FY 1995: 27		FY 1995: 69						

CLASSIFICATION:

**UNCLASSIFIED**

Exhibit P-20, Requirements Study			APPROPRIATION/BUDGET ACTIVITY WPN/BA-2 Other Missiles				DATE: <b>FEBRUARY 1999</b>	
P-1 ITEM NOMENCLATURE <b>SUBSONIC AERIAL TARGET</b>			Admin Leadtime (after Oct1): <b>4 Months</b>			Prod Leadtime : <b>16 Months</b>		
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Buy Summary	116	86	0	68	60	70	145	145
Unit Cost (Vehicle)	.25	.26	.00	.31	.31	.31	.25	.26
Total Cost	\$29.2	\$22.2	\$0.0	\$21.4	\$18.8	\$22.0	\$36.5	\$37.3
<b>Asset Dynamics</b>								
Beginning Asset Position	255	255	244	236	180	112	98	48
Deliveries from all prior year funding	120	109	70					
Deliveries from FY 1999 funding			42	44				
Deliveries from FY 2000 funding				0	0			
Deliveries from subsequent years' funding					32	96	70	72
Other Gains								
Combat Losses/Usage								
Training/Test/Other Losses/Usage (1)	120	120	120	100	100	110	120	120
Disposals/Retirements/Attritions/etc.								
<b>End of Year Asset Position</b>	255	244	236	180	112	98	48	0
Inventory Objective:								
Combatant Shipfill								
Expenditures								
Training & Testing Rqmt								
Depot Maint. Pipeline								
Other-WSPD of DEC 95	240	240	240	240	240	240	240	240
Peacetime Pipeline								
TOTAL Inventory Objective:	240	240	240	240	240	240	240	240
Approved Acquisition Objective	240	240	240	240	240	240	240	240
Other than Training Usage			Remarks:					
Actual Training Expenditures			(1) Numbers changed to more accurately reflect expenditures.					
FY 1999 thru 1/7/99: 4			FY 1999 thru 1/7/99: 23					
FY 1998: 10			FY 1998: 110					
FY 1997: 33			FY 1997: 82					
FY 1996: 34			FY 1996: 118					
FY 1995: 31			FY 1995: 124					

CLASSIFICATION:

**FISCAL YEAR 2000 PRESIDENTS BUDGET SUBMISSION**

<b>BUDGET ITEM JUSTIFICATION SHEET</b>					DATE: <b>FEBRUARY 1999</b>							
<b>P-40</b>												
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA-2; OTHER MISSILES</b>					P-1 ITEM NOMENCLATURE <b>DRONES AND DECOYS (J2DJ)</b>							
Program Element for Code B Items: N/A					Other Related Program Elements N/A							
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY				57								
COST (In Millions)	\$225.0		\$.3	\$8.3	\$.0	\$.0	\$.0	\$.0	\$.0	\$.0	\$.0	\$233.6
<p>PROGRAM COVERAGE:</p> <p>Funding for Drones and Decoys from FY 1986 through FY 1993 has been used for continued procurements of ADM-141 Tactical Air Launched Decoy (TALD) units, which are non-powered, glide trajectory driven vehicles. The ADM-141 TALD is an expendable of similar size to a 500 pound general purpose bomb, and is carried similarly. After launched from strike aircraft, the ADM-141 TALD uses radar signature augmentation and preprogrammed flight profiles to simulate manned aircraft. Its mission is to deceive and saturate hostile radar controlled air defenses, thus enhancing strike aircraft survivability. Currently, the A-6, F/A-18, F-14 and S-3 are fully qualified to deploy the ADM-141 TALD in both land Based and CV operations. Additionally, an AV-8B/TALD capability is planned.</p> <p>Procurement of an improved TALD, (ITALD), ADM-141C, using FY 1994/95 funds was awarded in September 1996 for a total quantity of 98 ITALDs. A follow-on procurement was awarded for 110 ITALDs using FY 1997 funds. An additional procurement is planned 2QFY99 for 57 ITALDs. The major improvement to this decoy is an engine that will give the decoy a much longer stand-off range.</p>												

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**WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)**

FEBRUARY 1999

TARGET SYSTEM: <b>ITALD</b> MANUFACTURER: <b>IMI LTD, RATAT HASHARON, IS</b> COST CODE: <b>DJ010</b> FLYAWAY COST (\$000)	Prior Yrs Total Costs	FISCAL YEAR 98			FISCAL YEAR 99			FISCAL YEAR 00			FISCAL YEAR 01		
		QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
<b>HARDWARE:</b>													
ITALD	\$35,655	0		\$0	57	140	\$8,000	0		\$0	0		\$0
CONTAINERS	\$355			\$0			\$0			\$0			\$0
<b>TOTAL HARDWARE</b>	<b>\$36,010</b>	<b>0</b>		<b>\$0</b>	<b>57</b>		<b>\$8,000</b>	<b>0</b>		<b>\$0</b>	<b>0</b>		<b>\$0</b>
<b>PROCUREMENT SUPPORT (RECURRING):</b>													
CONTRACTOR ENGINEERING	\$812			\$0			\$0			\$0			\$0
GOVERNMENT IN-HOUSE	\$2,729			\$289			\$271			\$0			\$0
DOCUMENTATION	\$166			\$0			\$0			\$0			\$0
GOVERNMENT TEST	\$1,531			\$0			\$0			\$0			\$0
OTHER	\$0			\$0			\$0			\$0			\$0
<b>TOTAL RECURRING</b>	<b>\$5,238</b>			<b>\$289</b>			<b>\$271</b>			<b>\$0</b>			<b>\$0</b>
<b>PROCUREMENT SUPPORT (NONRECURRING):</b>													
PRODUCT IMPROVEMENT	\$0			\$0			\$0			\$0			\$0
SPECIAL TOOLING AND TEST EQUIPMENT	\$0			\$0			\$0			\$0			\$0
<b>TOTAL NONRECURRING</b>	<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>
<b>TOTAL FLYAWAY</b>	<b>\$41,248</b>	<b>0</b>	<b>\$0</b>	<b>\$289</b>	<b>57</b>	<b>\$145</b>	<b>\$8,271</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>
<b>GROUND EQUIPMENT/FLEET SUPPORT COST:</b>													
GROUND EQUIPMENT	\$0			\$0			\$0			\$0			\$0
INSTALL & CHECKOUT	\$0			\$0			\$0			\$0			\$0
SPECIAL HANDLING EQUIPMENT	\$0			\$0			\$0			\$0			\$0
FLEET TEST EQUIPMENT	\$0			\$0			\$0			\$0			\$0
TRAINING DEVICES	\$24			\$0			\$0			\$0			\$0
DOCUMENTATION	\$0			\$0			\$0			\$0			\$0
ILS	\$784			\$0			\$0			\$0			\$0
<b>TOTAL GRD EQUIP/FLEET SUP COST</b>	<b>\$808</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>
<b>WEAPONS SYSTEM COST</b>	<b>\$42,056</b>	<b>0</b>	<b>\$0</b>	<b>\$289</b>	<b>57</b>	<b>\$145</b>	<b>\$8,271</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>
<b>VARIOUS 1/</b>	<b>\$182,967</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>
INITIAL SPARES	\$0			\$0			\$0			\$0			\$0
<b>TOTAL PROGRAM COST</b>	<b>\$225,023</b>	<b>0</b>	<b>\$0</b>	<b>\$289</b>	<b>57</b>	<b>\$145</b>	<b>\$8,271</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>

P-1 SHOPPING LIST

ITEM NO.

14

PAGE NO. 2

1/ The amount identified against this cost element reflects total prior year funding associated with cost elements no longer financed in FY 1997 and beyond.

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**WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)**

FEBRUARY 1999

TARGET SYSTEM: ITALD MANUFACTURER: IMI LTD, RATAT HASHARON, IS COST CODE: DJ010 FLYAWAY COST (\$000)	FISCAL YEAR 02			FISCAL YEAR 03			FISCAL YEAR 04			FISCAL YEAR 05			TO COMPLETE COSTS	TOTAL COSTS
	QTY	UNIT COST	TOTAL COST											
<b>HARDWARE:</b>														
ITALD	0		\$0	0		\$0	0		\$0	0		\$0	\$0	\$43,655
CONTAINERS			\$0			\$0			\$0			\$0	\$0	\$355
<b>TOTAL HARDWARE</b>	<b>0</b>		<b>\$0</b>	<b>\$0</b>	<b>\$44,010</b>									
<b>PROCUREMENT SUPPORT (RECURRING):</b>														
CONTRACTOR ENGINEERING			\$0			\$0			\$0			\$0	\$0	\$812
GOVERNMENT IN-HOUSE			\$0			\$0			\$0			\$0	\$0	\$3,289
DOCUMENTATION			\$0			\$0			\$0			\$0	\$0	\$166
GOVERNMENT TEST			\$0			\$0			\$0			\$0	\$0	\$1,531
OTHER			\$0			\$0			\$0			\$0	\$0	\$0
<b>TOTAL RECURRING</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>	<b>\$0</b>	<b>\$5,798</b>
<b>PROCUREMENT SUPPORT (NONRECURRING):</b>														
PRODUCT IMPROVEMENT			\$0			\$0			\$0			\$0	\$0	\$0
SPECIAL TOOLING AND TEST EQUIPMENT			\$0			\$0			\$0			\$0	\$0	\$0
<b>TOTAL NONRECURRING</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>TOTAL FLYAWAY</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$49,808</b>									
<b>GROUND EQUIPMENT/FLEET SUPPORT COST:</b>														
GROUND EQUIPMENT			\$0			\$0			\$0			\$0	\$0	\$0
INSTALL & CHECKOUT			\$0			\$0			\$0			\$0	\$0	\$0
SPECIAL HANDLING EQUIPMENT			\$0			\$0			\$0			\$0	\$0	\$0
FLEET TEST EQUIPMENT			\$0			\$0			\$0			\$0	\$0	\$0
TRAINING DEVICES			\$0			\$0			\$0			\$0	\$0	\$24
DOCUMENTATION			\$0			\$0			\$0			\$0	\$0	\$0
ILS			\$0			\$0			\$0			\$0	\$0	\$784
<b>TOTAL GRD EQUIP/FLEET SUP COST</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>	<b>\$0</b>	<b>\$808</b>
<b>WEAPONS SYSTEM COST</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$50,616</b>									
<b>VARIOUS 1/</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>			<b>\$0</b>		<b>\$182,967</b>
INITIAL SPARES			\$0			\$0			\$0			\$0	\$0	\$0
<b>TOTAL PROGRAM COST</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$233,583</b>									

P-1 SHOPPING LIST

ITEM NO. 14 PAGE NO. 2a

1/ The amount identified against this cost element reflects total prior year funding associated with cost elements no longer financed in FY 1997 and beyond.

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CLASSIFICATION:

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BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)									A. DATE	
									FEBRUARY 1999	
B. APPROPRIATION/BUDGET ACTIVITY					C. P-1 ITEM NOMENCLATURE				SUBHEAD	
Weapons Procurement, Navy/BA-2; Other Missiles					DRONES AND DECOYS				J2DJ	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE
ADM-141C/FY-94	81	195(1)	NAVAIR	15 MAY 96	SS/FP	Israeli Military Industries, Ramat Hasharon, IS	SEP 96	AUG 98	YES	N/A
ADM-141C/FY-95	17	318(1)	NAVAIR		SS/FP	Israeli Military Industries, Ramat Hasharon, IS	SEP 96	JUN 98	YES	N/A
ADM-141C/FY-97	110	131	NAVAIR		SS/FP	Israeli Military Industries, Ramat Hasharon, IS	MAR 98	MAY 99	YES	N/A
ADM-141C/FY-99	57	140	NAVAIR		SS/FP	Israeli Military Industries, Ramat Hasharon, IS	MAR 99	NOV 99	YES	N/A

D. REMARKS

(1) FY-94 and FY-95 contracts were awarded concurrently. FY-95 funding was used for first article test units. The actual unit cost for production vehicles was \$193,116.00



CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: February 1999				
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA-2</b>							P-1 ITEM NOMENCLATURE <b>OTHER MISSILE SUPPORT/2290</b>					
Program Element for Code B Items: <b>N/A</b>							Other Related Program Elements <b>N/A</b>					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	N/A	A	<b>\$17.8</b>	<b>\$15.2</b>	<b>\$12.8</b>	<b>\$15.0</b>	<b>\$11.8</b>	<b>\$15.9</b>	<b>\$10.0</b>	<b>\$17.4</b>	<b>N/A</b>	<b>\$115.9</b>
<p>The Vertical Launching System (VLS) is a missile launching system for surface combatants, designed to launch Standard Missile, TOMAHAWK, EVOLVED SEASPARROW and Vertical Launch ASROC (VLA) weapons. The VLS significantly improves missile capacity, flexibility, multi-mission capability, reaction time and rate of fire and is designed to be adaptable to present and future weapons systems. Present requirements are to provide two 61 cell launchers for 22 TICONDEROGA (CG-47) Class Cruisers beginning with CG-52, one 61 cell launcher for 24 SPRUANCE (DD-963) Class destroyers and one 61 cell and one 29 cell launcher for 57 ARLEIGH BURKE (DDG-51) Class destroyers. A 61 cell launcher consists of eight VLS modules and 61 canisters. Canisters are used as a storage/shipping container for missiles ashore and as the magazine and firing tube aboard ship. In order to support the operating forces, it is necessary to have sufficient encanisterized missiles on hand to fill the logistic pipeline associated with the Combat Logistics Force (CLF) transportation times and mobilization considerations. To accomplish this one canister is required for every VLS missile variant that is procured. In addition, a small percentage of canisters are procured to cover those canisters that are lost, damaged or destroyed. Funds are for the procurement of VLS canisters, and to provide VLS unique equipment to the weapons stations and to provide ILS for canisters procured with WPN funds. Prior to FY-96, canisters were also funded by SCN and OPN Appropriations. Evolved SEASPARROW Quad Pack (ESSM/QP) missile is being designed to provide an enhanced ship self defense capability for DDG-51 Flight IIA (DDG 79 and follow) ships. Procurement of The ESSM/QP canisters are budgeted starting in FY01 under BLI #230700/EVOLVED SEASPARROW (ESSM).</p>												

CLASSIFICATION:

**UNCLASSIFIED**

WEAPONS SYSTEM COST ANALYSIS P-5						Weapon System			DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/BA-2						ID Code	P-1 ITEM NOMENCLATURE/SUB  OTHER MISSILE SUPPORT/2290							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLAR:											
			FY 1998			FY 1999			FY 2000					
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
FD005	TYPE I CANISTERS SM-2 MR BLK III/IIIA/IIIB (MK-13)		68	32.5	2,212	75	33.9	2,546	75	33.5	2,513			
FD006	TYPE II CANISTERS TOMAHAWK (MK-14) SM-2 BLK IV (MK-21 MOD 0) SM-2 BLK IVA (MK-21 MOD 1)		38	135.7	5,155	36	138.3	4,979	17	153.2	2,604			
FD009	CANISTER EQUIPMENT				1,308			1,014			576			
FD970	ILS SUPPORT				8,222			6,626			6,541			
FD980	INITIAL TRAINING SUPPORT				950						550			
	<b>TOTAL</b>				<b>17,847</b>			<b>15,165</b>			<b>12,784</b>			
<b>TOTAL</b>					<b>17,847</b>			<b>15,165</b>			<b>12,784</b>			

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System			A. DATE <b>February 1999</b>			
B. APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA-2</b>					C. P-1 ITEM NOMENCLATURE <b>OTHER MISSILE SUPPORT/2290</b>					SUBHEAD <b>12FD</b>	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE	
<b>FY 98</b>											
FD005/TYPE I CANISTERS SM-2 MR BLK III/IIIA/IIIB (MK-13)	68	32.5	NAVSEA	Jan-98	SS/FP	United Defense FMC/BM MINNEAPOLIS, MN	9/98	03/00	YES		
FD006/ TYPE II CANISTERS SM-2 BLK IV (MK-21 MOD 0)	38	135.7	NAVSEA	Jan-98	SS/FP	United Defense FMC/BM MINNEAPOLIS, MN	9/98	10/99	YES		
<b>FY 99</b>											
FD005/TYPE I CANISTERS SM-2 MR BLK III/IIIA/IIIB (MK-13)	75	33.9	NAVSEA		FP/ OPT	United Defense FMC/BM MINNEAPOLIS, MN	1/99	10/00	YES		
FD006/ TYPE II CANISTERS SM-2 BLK IV (MK-21 MOD 0)	36	138.3	NAVSEA		FP/ OPT	United Defense FMC/BM MINNEAPOLIS, MN	1/99	10/00	YES		
<b>FY 00</b>											
FD005/TYPE I CANISTERS SM-2 MR BLK III/IIIA/IIIB (MK-13)	75	33.5	NAVSEA		FP/ OPT	United Defense FMC/BM MINNEAPOLIS, MN	1/00	01/02	YES		
FD006/ TYPE II CANISTERS SM-2 BLK IVA (MK-21 MOD 1)	17	153.2	NAVSEA		FP/ OPT	United Defense FMC/BM MINNEAPOLIS, MN	1/00	10/01	YES		
<b>D. REMARKS</b>											

FY 1998/99 BUDGET PRODUCTION SCHEDULE, P-21						DATE February 1999																									
APPROPRIATION/BUDGET ACTIVITY				Weapon System		P-1 ITEM NOMENCLATURE																									
Weapons Procurement, Navy/BA-2						OTHER MISSILE SUPPORT/2290																									
Item	Manufacturer's Name and Location	Production Rate			Procurement Leadtimes					Total	Unit of Measure																				
		MSR	1-8-5	MAX	ALT Prior to Oct 1	ALT After Oct 1	Initial Mfg PLT	Reorder Mfg PLT																							
SM-2 BLK III/IIIA/IIIB	United Defense	120	330	480	3	3	18	18	21	E																					
SM-2 BLK IV/IVA	Minneapolis, Mn																														
ITEM / MANUFACTURER	F Y	S V C	Q T Y	D E L	B A L	FISCAL YEAR 1999												B A L													
						CALENDAR YEAR 1999																									
						1998	CALENDAR YEAR 2000																								
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		
TOMAHAWK	96		50	45	5	5																									0
SM-2 BLK III/IIIA/IIIB	97		80		80	7	7	7	7	7	7	7	7	6	6	6	6														0
SM-2 BLK IV (MK-21 MOD 0)	97		48		48	4	4	4	4	4	4	4	4	4	4	4	4													0	
SM-2 BLK III/IIIA/IIIB	98		68		68																		11	11	10	10	10	8	8	0	
SM-2 BLK IV (MK-21 MOD 0)	98		38		38													8	8	8	8	6								0	
SM-2 BLK III/IIIA/IIIB	99		75		75				A																					75	
SM-2 BLK IV (MK-21 MOD 0)	99		36		36				A																					36	
SM-2 BLK III/IIIA/IIIB	00		75		75																	A								75	
SM-2 BLK IVA (MK-21 MOD 1)	00		17		17																	A								17	
ITEM / MANUFACTURER	F Y	S V C	Q T Y	D E L	B A L	FISCAL YEAR 2001												B A L													
						CALENDAR YEAR 2001																									
						2000	CALENDAR YEAR 2002																								
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P		
SM-2 BLK III/IIIA/IIIB	99		75		75	8	8	8	8	8	8	9	9	9																	0
SM-2 BLK IV (MK-21 MOD 0)	99		36		36	4	4	3	3	3	3	3	3	3	3	3	1													0	
SM-2 BLK III/IIIA/IIIB	00		75		75																	8	8	8	8	8	8	9	9	9	0
SM-2 BLK IV (MK-21 MOD 0)	00		17		17													5	5	5	2									0	
SM-2 BLK III/IIIA/IIIB	01				###				A																					###	
SM-2 BLK IVA (MK-21 MOD 1)	01				###				A																					###	
ESSM/QP (MK-25 MOD 0)	01		9		9				A																					9	
Remarks: Minimum Sustaining Rate is met with AMS quantities. ESSM/QP (MK-25 MOD-0) Qty shown for informational purposes.																															



CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET											DATE:																						
P-40											February 1999																						
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE																										
<b>Weapons Procurement, Navy/ BA - 2 Other Missiles</b>							<b>AIM-9 Sidewinder Mods</b>																										
Program Element for Code B Items:							Other Related Program Elements																										
							<b>0207161N</b>																										
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Program																					
QUANTITY					75	125	300	300	300	300	3,600	5,000																					
COST (\$M)	46.1		0.3	0.0	29.4	32.5	56.8	62.2	63.7	65.1	957.5	1313.6																					
<p>The AIM-9 Sidewinder short-range air-to-air missile (SRM) is a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the SRM arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures.</p> <p>The AIM-9M-8/9 modification program improves the robustness of Counter Counter-Measures (CCM) without changing any basic AIM-9M characteristics. FY 1998 provides funding to complete the installation of the AIM-9M mods.</p> <p>Funds in FY 2000 and beyond will fund the AIM-9X. The AIM-9X is a long-term evolution to the AIM-9 which provides improvements in missile seeker, and kinematics which allow retrofit of components to current missiles to the maximum extent possible. Retrofitting of components will extend the operational effectiveness of existing inventories at an affordable cost while continuing evolution of the AIM 9 series. Anti-Tamper features will be incorporated to protect improvements inherent to this design. The Defense Acquisition Board (DAB) approved the AIM-9X Low Rate Initial Production (LRIP) acquisition strategy in December 1996. This strategy includes a pricing agreement for the first three production lots, and sustainment activities to include depot level repair. This strategy will be reviewed and approved at the Low Rate Initial Production (LRIP) DAB scheduled for March 2000.</p> <p><u>FY 2000 Program Justification:</u> Obtain LRIP approval decision, award LRIP contract, and begin production for LRIP #1. The total quantity of missiles produced is a combination of All-Up-Rounds (AUR) and Captive Air Training Missile (CATM). The manufacturer will be Raytheon Missile Systems Company (RMSC).</p> <p>Navy and Air Force quantities to be procured from FY 2000 through FY 2005 are provided below:</p> <p><u>FY 2001 Program Justification:</u> Complete Production Readiness Review for LRIP #2. The total quantity of missiles produced will be a combination of AUR and CATM rounds</p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: left;">AIM-9X QUANTITIES</th> <th style="text-align: center;">FY 2000</th> <th style="text-align: center;">FY 2001</th> <th style="text-align: center;">FY 2002</th> <th style="text-align: center;">FY 2003</th> <th style="text-align: center;">FY 2004</th> <th style="text-align: center;">FY 2005</th> </tr> </thead> <tbody> <tr> <td style="padding-left: 20px;">Air Force</td> <td style="text-align: center;">75</td> <td style="text-align: center;">125</td> <td style="text-align: center;">300</td> <td style="text-align: center;">300</td> <td style="text-align: center;">380</td> <td style="text-align: center;">300</td> </tr> <tr> <td style="padding-left: 20px;">Navy</td> <td style="text-align: center;">75</td> <td style="text-align: center;">125</td> <td style="text-align: center;">300</td> <td style="text-align: center;">300</td> <td style="text-align: center;">300</td> <td style="text-align: center;">300</td> </tr> </tbody> </table> <p>AIM-9X PE 0207161N, E0457            AIM-9X PE 0207161F, AIR FORCE</p>													AIM-9X QUANTITIES	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Air Force	75	125	300	300	380	300	Navy	75	125	300	300	300	300
AIM-9X QUANTITIES	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005																											
Air Force	75	125	300	300	380	300																											
Navy	75	125	300	300	300	300																											

CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: UNCLASSIFIED

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AIM-9M TYPE MODIFICATION: Missile Modification MODIFICATION TITLE: AIM-9M Product Improvement Program

DESCRIPTION/JUSTIFICATION:  
 The current AIM-9M Sidewinder does not meet the infrared Counter-Measures threat environment. This modification program provides the technology for an upgrade to the AIM-9M inventory. The Guidance and Control section of the AIM-9M missile will be modified at a government depot and/or contractor facility. The AIM-9M-8/9 modification program improves the robustness of CCM without changing any basic AIM-9M characteristics.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: IN PRODUCTION

	FY 1997 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
FINANCIAL PLAN (IN MILLIONS)																							
RDT&E																						0	0.0
PROCUREMENT																							
INSTALLATION KITS	4207	23.2																				4207	23.2
INSTALLATION KITS - UNIT COST																							
INSTALLATION KITS NONRECURRING		0.5																					0.5
EQUIPMENT																							0.0
EQUIPMENT NONRECURRING																							0.0
ENGINEERING CHANGE ORDERS																							0.0
DATA																							0.0
TRAINING EQUIPMENT		1.9																					1.9
SUPPORT EQUIPMENT																							0.0
GOV'T IN HOUSE SYS ENGR/TEST		8.5																					8.5
ILS SUPPORT EQUIPMENT		4.4																					4.4
OTHER																							0.0
INTERIM CONTRACTOR SUPPORT																							0.0
INSTALL COST		7.6		0.3																			7.9
TOTAL PROCUREMENT		46.1		0.3																			46.4

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

**INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: AIM-9M MODIFICATION TITLE: AIM-9M Product Improvement Program

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Depot and Weapon Station

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME:                      Months

CONTRACT DATES: FY 1999:           N/A           FY 2000:           N/A           FY 2001:           N/A          

DELIVERY DATE: FY 1999:           N/A           FY 2000:           N/A           FY 2001:           N/A          

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS	2968	6.3	981	1.3	258	0.3																	4207	7.9
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																								
FY 2000 EQUIPMENT																								
FY 2001 EQUIPMENT																								
FY 2002 EQUIPMENT																								
FY 2003 EQUIPMENT																								
FY 2004 EQUIPMENT																								
FY 2005 EQUIPMENT																								
TO COMPLETE																								

INSTALLATION SCHEDULE:

	FY 1998	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
In	4129	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4207
Out	4009	120	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4207	

Note: Input: Induction to Contractor  
Output: Delivery of modified GCS from contractor

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**  
 MODELS OF SYSTEM AFFECTED: AIM-9X TYPE MODIFICATION: Missile Modification MODIFICATION TITLE: AIM-9X Missile Modification

DESCRIPTION/JUSTIFICATION:

The AIM-9X is the long term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. Improvements in missile seeker and kinematics allow retrofit of component current missiles to the maximum extent possible. Retrofitting of components will extend the operational effectiveness of existing inventories at an affordable cost while continuing evolution of the AIM-9 series.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: **Engineering Manufacturing Development**

**EMD Contract Award** Dec-96  
**LRIP DAB** May-00  
**Milestone III SAE Review** Mar-02

FINANCIAL PLAN (IN MILLIONS)	FY 1997 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$
RDT&E*		73.2		55.1		65.9		40.7		17.7		5.6		1.7		0.5		1.2		0.0	0	261.6
PROCUREMENT																						
INSTALLATION KITS	0	0.0	0	0.0	0	0.0	75	19.0	125	22.0	300	49.6	300	57.7	300	57.4	300	57.7	3600	817.4	5000	1080.8
INSTALLATION KITS - UNIT COST								0.3		0.2		0.2		0.2		0.2		0.2				
INSTALLATION KITS NONRECURRING								0.0		0.0		2.6		0.0		0.0		0.0		0.0		2.6
SPEC TOOLING/SPEC TEST EQUIP								4.3		1.0		0.5		0.5		1.6		0.7		19.4		28.0
ENGINEERING CHANGE ORDERS								1.0		0.9		1.0		1.2		1.1		1.2		28.5		34.9
DATA								0.1		0.1		0.1		0.1		0.1		0.1		1.9		2.5
GOVERNMENT IN-HOUSE								1.5		1.4		0.9		1.1		1.5		1.4		26.0		33.8
TRAINING EQUIPMENT								2.1		3.4		0.0		0.0		0.0		1.9		24.4		31.8
SUPPORT EQUIPMENT								0.3		2.4		0.5		0.0		0.0		0.0		0.0		3.2
ILS								1.1		1.3		1.6		1.6		2.0		2.1		39.8		49.5
INSTALL COST (INCLUDED IN INSTALLATION KITS (INCLUDES TEARDOWN, TEST AND SHIPPING))																						0.0
TOTAL PROCUREMENT								29.4		32.5		56.8		62.2		63.7		65.1		957.4		1267.1

\* FY95 and prior funded under P.E. 0603715D.  
 May not add due to rounding.



CLASSIFICATION:

# UNCLASSIFIED

## BUDGET ITEM JUSTIFICATION SHEET P-40

DATE:  
**FEBRUARY 1999**

APPROPRIATION/BUDGET ACTIVITY  
**Weapons Procurement, Navy/BA2-Other Missiles**

P-1 ITEM NOMENCLATURE  
**HARPOON/SLAM MODS (J2EW) (PEO-CU) FY97/FY98**

Program Element for Code B Items:  
**N/A**

Other Related Program Elements  
**0604603N**

	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Total Program
QUANTITY											
COST (\$M)	\$203.5		\$20.7	*	*	*	*	*	*	*	\$224.2

MISSION AND DESCRIPTION: The HARPOON/SLAM missile modification program provides funds for Engineering Change Proposals (ECPs) and other improvements to its weapons components which are already in the inventory and requires retrofit activity to produce the SLAM EXPANDED RESPONSE missile. Additionally, exercise sections are procured to meet fleet training requirements. The SLAM ER missile with the addition of Automatic Target Acquisition (ATA), Automated Mission Planning, Real Time Target Capability, Increased Range and Flight Envelope and Increased Warhead Penetration has matured into a permanent Standoff Outside Area Defense (SOAD) weapon that will remain effective through the year 2015.

MODIFICATION	Prior Years	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
ENCAPSULATED EX	2.962	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SURFACE LAUNCH E)	11.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SLAM-ER	40.178	20.716	*	*	*	*	*	*	*
VARIOUS 1/	148.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>TOTALS</b>	<b>203.514</b>	<b>20.716</b>	<b>0.000</b>						

\* In FY 1999 and beyond SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 223100 (SLAM-ER).

1/ The amount identified against this cost element reflects total prior year funding associated with cost elements no longer funded in FY 98 and beyond.

P-1 SHOPPING LIST

CLASSIFICATION:

# UNCLASSIFIED

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET FOR AGGREGATED ITEMS P-40a							DATE: FEBRUARY 1999				
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/BA 2 - Other Missiles							P-1 ITEM NOMENCLATURE HARPOON/SLAM MODS (J2EW) (PEO-CU) FY 97/98				
Procurement Items	ID Code	Prior Years	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Total
Encapsulated Ex Rnd											
Quantity		16	0	0	0	0	0	0	0	0	16
Funding		2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Surface Launch Ex Rnd											
Quantity		37	0	0	0	0	0	0	0	0	37
Funding		11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0
SLAM-ER											
Quantity		60	22	0	0	0	0	0	0	0	82
Funding		33.6	15.1	*	*	*	*	*	*	*	48.7
Other Costs		156.1	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	161.7
Total P-1 Funding											
Funding		203.5	20.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	224.2

\* In FY 1999 and beyond SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 223100 (SLAM-ER).

P-1 SHOPPING LIST

CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: UGM-84C/D TYPE MODIFICATION: \_\_\_\_\_ MODIFICATION TITLE: ENCAPSULATED HARPOON EXERCISE ROUND

DESCRIPTION/JUSTIFICATION:  
 Convert sub-launch tactical missiles to fleet exercise/telemetry missiles.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTOIProcurement/Installation Exercise; No milestones required

	FY 1997 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		IC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
FINANCIAL PLAN (IN MILLIONS)																							
RDT&E																						0	0.0
PROCUREMENT																							
INSTALLATION KITS	16	2.8																				16	2.8
INSTALLATION KITS - UNIT COST																							
INSTALLATION KITS NONRECURRING																							0.0
EQUIPMENT																							0.0
EQUIPMENT NONRECURRING																							0.0
ENGINEERING CHANGE ORDERS																							0.0
DATA																							0.0
TRAINING EQUIPMENT																							0.0
SUPPORT EQUIPMENT																							0.0
OTHER																							0.0
OTHER																							0.0
OTHER																							0.0
INTERIM CONTRACTOR SUPPORT																							0.0
INSTALL COST	6	0.1																					0.1
TOTAL PROCUREMENT	16	2.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.2	16	3.1	

P-1 SHOPPING LIST

CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A (Continued)

**INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: UGM-84C/D MODIFICATION TITLE: ENCAPSULATED HARPOON EXERCISE ROUND CONVERSION KITS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: \_\_\_\_\_

ADMINISTRATIVE LEADTIME: 7 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

DELIVERY DATE: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS	6	0.1																					16	0.3
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																								
FY 2000 EQUIPMENT																								
FY 2001 EQUIPMENT																								
FY 2002 EQUIPMENT																								
FY 2003 EQUIPMENT																								
FY 2004 EQUIPMENT																								
FY 2005 EQUIPMENT																								
TO COMPLETE																								

INSTALLATION SCHEDULE:

	FY 1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	16			
Out	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	16				

P-3A

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**  
 MODELS OF SYSTEM AFFECTED: RGM-84C/D TYPE MODIFICATION: \_\_\_\_\_ MODIFICATION TITLE: SURFACE LAUNCH HARPOON EXERCISE ROUND CONVERSION KITS

DESCRIPTION/JUSTIFICATION:  
 Capsule for submarine launched HARPOON-CORROSION corrective actions change-replace non-ready-for-issue or expended capsule assemblies.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: PROCUREMENT/INSTALLATION EXERCISE; NO MILESTONES REQUIRED

	FY 1996 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<b>FINANCIAL PLAN (IN MILLIONS)</b>																							
RDT&E																						0	0.0
<b>PROCUREMENT</b>																							
INSTALLATION KITS	37	11.0																				37	11.0
INSTALLATION KITS - UNIT COST																							
INSTALLATION KITS NONRECURRING																							0.0
EQUIPMENT																							0.0
EQUIPMENT NONRECURRING																							0.0
ENGINEERING CHANGE ORDERS																							0.0
DATA																							0.0
TRAINING EQUIPMENT																							0.0
SUPPORT EQUIPMENT																							0.0
OTHER																							0.0
OTHER																							0.0
OTHER																							0.0
INTERIM CONTRACTOR SUPPORT																							0.0
INSTALL COST	37	0.8																					0.8
<b>TOTAL PROCUREMENT</b>	<b>37</b>	<b>11.8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>37</b>	<b>11.8</b>													

P-1 SHOPPING LIST

CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: UNCLASSIFIED

P3A (Continued)

INDIVIDUAL MODIFICATION (Continued)

MODELS OF SYSTEMS AFFECTED: RGM-84C/D MODIFICATION TITLE: SURFACE LAUNCH HARPOON EXERCISE ROUND CONVERSION KITS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: \_\_\_\_\_

ADMINISTRATIVE LEADTIME: 7 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

DELIVERY DATE: FY 1998: N/A

FY 1999: N/A

FY 2000: N/A

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS	30	0.7	7	0.1																		37	0.8
FY 1997 EQUIPMENT																							
FY 1998 EQUIPMENT																							
FY 1999 EQUIPMENT																							
FY 2000 EQUIPMENT																							
FY 2001 EQUIPMENT																							
FY 2002 EQUIPMENT																							
FY 2003 EQUIPMENT																							
FY 2004 EQUIPMENT																							
FY 2005 EQUIPMENT																							
TO COMPLETE																						15	0.4

INSTALLATION SCHEDULE:

	FY 1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37		
Out	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37			

P-3A

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: AGM-84E TYPE MODIFICATION: \_\_\_\_\_ MODIFICATION TITLE: SLAM EXPANDED RESPONSE (ER)

DESCRIPTION/JUSTIFICATION:

Converts SLAM to SLAM ER configuration, increasing range, accuracy, lethality, and enhances inter-service compatibility.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: PRODUCTION

	FY 1997 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL			
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$		
<b>FINANCIAL PLAN (IN MILLIONS)</b>																								
RDT&E		158.1		28.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			186.3	
INSTALLATION KITS (1) (2) (3) (4)	60	33.6	22	15.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			82	48.7
		0.560		0.686																				
INSTALLATION KITS NONRECURRING																								0.0
EQUIPMENT		0.3		0.4		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0			0.7	
EQUIPMENT NONRECURRING																								0.0
ENGINEERING CHANGE ORDERS		1.5		0.2		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0			1.7	
DATA		1.0		0.3		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0			1.3	
TRAINING EQUIPMENT (Exercise Section)	10	1.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			10	1.0
SUPPORT EQUIPMENT (Containers)	60	0.8	22	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			82	1.2
OTHER (Field Activity Support)		1.9		4.1		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0			6.0	
INTERIM CONTRACTOR SUPPORT				0.2		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0			0.2	
INSTALL COST																								0.0
ATA RETROFIT					0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		0.0			0	0.0
TOTAL PROCUREMENT	60	40.1	22	20.7	0	*	0	*	0	*	0	*	0	*	0	*	0	*	0	*			82	60.8

P-1 SHOPPING LIST

CLASSIFICATION:

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Note(s):

- (1) Kit consists of GFE SLAM AUR, and CFE components.
- (2) Installations costs are included in the Installation Kits line since kit costs and installation are non-severable.
- (3) Estimates costs for installation kits/installation of Hardware is effected by concurrent FMS production (Harpoon). FMS assumptions include 95 units in FY 97, and 100 units in FY 98.
- (4) SLAM ER Hardware and engineering unaffected by FMS Harpoon quantities (No commonality).

\* In FY 1999 and beyond SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 223100 (SLAM-ER).

CLASSIFICATION: UNCLASSIFIED

P3A (Continued)

INDIVIDUAL MODIFICATION (Continued)

MODELS OF SYSTEMS AFFECTED: AGM-84E MODIFICATION TITLE: SLAM EXPANDED RESPONSE (ER)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: \_\_\_\_\_

ADMINISTRATIVE LEADTIME: 7 Months

PRODUCTION LEADTIME: 12 Months 2/

CONTRACT DATES: FY 1998: Jun-98

FY 1999: \* FY 2000: \*

DELIVERY DATE: FY 1998: Jan-00

FY 1999: \* FY 2000: \*

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																									
FY 1997 EQUIPMENT																									
FY 1998 EQUIPMENT																									
FY 1999 EQUIPMENT																									
FY 2000 EQUIPMENT																									
FY 2001 EQUIPMENT																									
FY 2002 EQUIPMENT																									
FY 2003 EQUIPMENT																									
FY 2004 EQUIPMENT																									
FY 2005 EQUIPMENT																									
TO COMPLETE																									

INSTALLATION SCHEDULE:

	FY 1998 & Prior	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82
Out	0	0	11	12	19	18	11	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82

1/ Input schedule reflects delivery of fleet baseline SLAM missiles to the contractor's site for modification.

2/ LRIP contracts have an 18 month lead time.

\* In FY 1999 and beyond SLAM-ER is budgeted under Weapons Procurement, Navy (WPN), Budget Activity 2, Budget Line Item 223100 (SLAM-ER).

P-3A

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BUDGET ITEM JUSTIFICATION SHEET										DATE: FEBRUARY 1999																							
<b>P-40</b>																																	
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/BA-2</b>							P-1 ITEM NOMENCLATURE <b>STANDARD MISSILES MODIFICATION (A2FK) BLI:235600</b>																										
Program Element for Code B Items:							Other Related Program Elements																										
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005		To Complete	Total																				
QUANTITY	167		83	80	78	100	103	140	160	164		25	1100																				
COST (In Millions)	\$59.0		\$49.7	\$45.2	\$41.9	\$51.0	\$49.7	\$62.3	\$70.3	\$71.4		\$12.7	\$513.2																				
<p>PROGRAM OVERVIEW: The Standard Missile Modification Program provides for improvements in operational readiness and electronic counter measures (ECM) performance in the STANDARD Missiles currently deployed. All of these modifications are "turn-key" and do not involve separate install funding. The following modification projects included in this budget are:</p> <table style="width:100%; margin-top: 20px;"> <thead> <tr> <th></th> <th>FY98</th> <th>FY99</th> <th>FY00</th> <th>FY01</th> <th>FY02</th> <th>FY03</th> <th>FY04</th> <th>FY05</th> <th>TO COMPLETE</th> </tr> </thead> <tbody> <tr> <td>Missile Homing (WP,N)</td> <td style="text-align: center;">49,680</td> <td style="text-align: center;">45,153</td> <td style="text-align: center;">41,927</td> <td style="text-align: center;">51,039</td> <td style="text-align: center;">49,748</td> <td style="text-align: center;">62,321</td> <td style="text-align: center;">70,307</td> <td style="text-align: center;">71,350</td> <td style="text-align: center;">12,650</td> </tr> </tbody> </table>															FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	TO COMPLETE	Missile Homing (WP,N)	49,680	45,153	41,927	51,039	49,748	62,321	70,307	71,350	12,650
	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	TO COMPLETE																								
Missile Homing (WP,N)	49,680	45,153	41,927	51,039	49,748	62,321	70,307	71,350	12,650																								

**UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: STANDARD Missile IMR) RIM-66G/H TYPE MODIFICATION: MODIFICATION TITLE: Missile Homing Improvement Program (MHIP)

DESCRIPTION/JUSTIFICATION:

The STANDARD Missile SM-2 is an Integral element of the AEGIS weapon system and provides area defense against air threats. The SM-2 Block IIIB MHIP provides Homing Improvements to SM-2 Blk II/III missiles for operations in a hostile ECM environment. The SM-2 Blk IIIB Modification Kit includes the IR seeker, the MK45 Mod 9 Target Detecting Device (TDD), the Mk125 Warhead, the MK54 S&A Device and an updated Digital Signal Processor (DSP). Additionally, in FY98(\* and outyears, the SM-2 Blk IIIB Modification shall include a regained MK104 Rocket Motor and replacement components for the guidance section and autopilot battery unit to address safety, performance and aging issues in the population of SM-2 Block II/III missiles being upgraded to the SM-2 Block IIIB configuration.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

	FY 1997 & Prior		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL					
PLAN (IN MILLIONS)	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$				
<i>RDT&amp;E</i>																										
<i>PROCUREMENT</i>																										
INSTALLATION KITS IIIB	167	59064	83	29808	80	27662	78	25156	100	30623	103	29848	140	37392	160	42184	164	42810			25	7590	1100	332137		
INSTALLATION KITS SLEP		0	83	19872	80	17491	78	16771	100	20416	103	19900	140	24929	160	28123	164	28540			25	5060	933	181102		
INSTALLATION KITS NONRECURRING		0		0		0		0		0		0		0		0		0						0		
EQUIPMENT		0		0		0		0		0		0		0		0		0						0		
EQUIPMENT NONRECURRING		0		0		0		0		0		0		0		0		0						0		
ENGINEERING CHANGE ORDERS		0		0		0		0		0		0		0		0		0						0		
DATA		0		0		0		0		0		0		0		0		0						0		
TRAINING EQUIPMENT		0		0		0		0		0		0		0		0		0						0		
SUPPORT EQUIPMENT		0		0		0		0		0		0		0		0		0						0		
OTHER		0		0		0		0		0		0		0		0		0						0		
OTHER		0		0		0		0		0		0		0		0		0						0		
OTHER		0		0		0		0		0		0		0		0		0						0		
INTERIM CONTRACTOR SUPPORT		0		0		0		0		0		0		0		0		0						0		
INSTALL COST		0		0		0		0		0		0		0		0		0						0		
TOTAL PROCUREMENT		59064		49680		45153		41927		51039		49748		62321		70307		71350						12650		513239

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Missile Homing Improvement Program (MHIP) BLK IIIB

Date: FEBRUARY 1999

Method of Implementation: Guidance sections will be reworked at the depots and modified into SM-2 Block IIIB configuration at a rate which will provide a constant workload. The modified sections will then be sent to the contractor All-Up-Round (AUR) facility for integration into the round. SLEP Mods (Starting in FY98) will be incorporated concurrently.

<u>Contract Date:</u>	<u>Prior Year</u>	<u>Current Year</u>	<u>Budget Year</u>	<u>Budget Year +1</u>	<u>Budget Year +2</u>	<u>Budget Year +3</u>	<u>Budget Year +4</u>
SEEKER	3/98	1/99	1/00	1/01	1/02	1/03	1/04
Target Detecting Device (TDD)	8/98	6/99	6/00	6/01	6/02	6/03	6/04
SLEP/GC&A	4/98	1/99	1/00	1/01	1/02	1/03	1/04
MK125 Warhead	7/98	4/99	4/00	4/01	4/02	4/03	4/04
MK54 Safe and Arm	12/97	3/99	3/00	3/01	3/02	3/03	3/04
SLEP MK104	7/98	3/99	3/00	3/01	3/02	3/03	3/04

<u>Production Delivery Date:</u>	<u>Prior Year</u>	<u>Current Year</u>	<u>Budget Year</u>	<u>Budget Year +1</u>	<u>Budget Year +2</u>	<u>Budget Year +3</u>	<u>Budget Year +4</u>
SEEKER	1/00	01/01	01/02	12/02	12/03	12/04	12/05
Target Detecting Device (TDD)	10/99	9/00	9/01	9/02	9/03	9/04	9/05
SLEP/GC&A	1/00	12/00	12/01	12/02	12/03	12/04	12/05
MK125 Warhead	10/99	9/00	9/01	9/02	9/03	9/04	9/05
MK54 Safe and Arm	10/99	9/00	9/01	9/02	9/03	9/04	9/05
SLEP MK104	10/99	10/00	10/01	10/02	10/03	10/04	10/05

Installation Schedule:

	<u>FY 1997 &amp; PRIOR</u>	<u>FY99</u>	<u>FY00</u>	<u>FY01</u>	<u>FY02</u>	<u>FY03</u>	<u>FY04</u>	<u>TOTAL</u>
		1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	
IN	28	27 27 27 27	26 27 27 27	27 20 20 20	20 20 20 18	25 25 25 25	26 26 26 26	611
OUT	6	22 27 27 27	27 26 27 27	27 27 20 20	20 20 20 20	18 25 25 25	25 26 26 26	559

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BUDGET ITEM JUSTIFICATION SHEET P-40							DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA 2 - Other Missiles							P-1 ITEM NOMENCLATURE Weapons Industrial Facilities					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	\$532.3		\$30.0	\$26.0	\$20.2	\$8.5	\$8.2	\$8.9	\$9.1	\$9.2	CONT	CONT
<p>This item provides funding to:</p> <ul style="list-style-type: none"> <li>-Close, deactivate, prepare for disposal, and convey the two Government-owned contractor-operated (GOCO), Naval Weapons Industrial Reserve Plants (NWIRPs) under the cognizance of NAVAIR supported by WPN funds. The two facilities are NWIRP, McGregor TX and NWIRP, Toledo OH. Closure and deactivation is being accomplished in accordance with 41 CFR, Chapter 101, <u>Federal Property Management Regulations</u>, and other applicable guidance. Upon completion of divestiture there will no longer be a requirement to fund these facilities.</li> <li>-Accomplish environmental remediation as required by law. Remediation is being accomplished in accordance with Section 120(h) of the <u>Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)</u> and Executive Order 12898, <u>Environmental Justice</u>. CERCLA 120(h) requires assurance of environmental contamination remediation prior to disposal of Government real property. This assurance is provided by following guidance promulgated by ASSTSECNAV (I&amp;E) memo of 22 Dec 1993, <u>Application of BRAC Environmental Procedures to Non-BRAC Identification of Uncontaminated Property and Cleanup of Contaminated Property at Closing Installations</u>.</li> <li>-Develop Environmental Impact Statements (EISs) and conduct Cultural Resource Surveys as required by law. The EISs and Cultural Resource Surveys must be accomplished in accordance with 40 CFR, the <u>National Environmental Policy Act (NEPA)</u> and other applicable guidance. The NEPA process is required for any major Federal action affecting the environment. Application to GOCO divestitures was confirmed by NAVAIR Counsel in Itr serial AIR-7.7.4/REC of 3 Apr 95, which based its conclusion on OPNAVINST 5090.1B, the Defense Authorization Acts of 1994 and 1995, and case law.</li> <li>-Dispose of the facilities as required by law. The disposal of NWIRP, McGregor TX is being accomplished in accordance with Section 2868, <u>Land Conveyance, NWIRP, McGregor, TX</u> of Public Law 104-106, <u>National Defense Authorization Act for FY-1996</u>. The mandatory divestiture of NWIRP, Toledo OH will be accomplished in accordance with ASSTSECNAV (RD&amp;A) memo of 7 July 1995, 41 CFR, Chapter 101, <u>Federal Property Management Regulations</u> and other applicable guidance.</li> <li>-Accomplish explosive decontamination of NWIRP, McGregor TX in accordance with AMCCOMR 385-2, Decontamination and Disposal of Facilities, Equipment and Material and other applicable guidance prior to transfer of the facility to the city of McGregor as required by law.</li> </ul> <p>Funding also supports Capital Type Rehabilitation projects at government-owned contractor operated plants for weapons systems such as Sparrow, Sea Sparrow, Hawk, Standard, Sidewinder, VLS and Mark 45 Gun Mounts, Phalanx, and rocket motors. Federal Acquisition Regulation Part 52.245-7 specifies that Facilities Use contracts require that the government fund capital type rehabilitation projects to support and maintain these facilities. These plants have an average age of 45 years and lack of proper maintenance will limit capabilities to maintain scheduled production rates and overall productivity. The following estimates are for capital type rehabilitation areas. Funding is separated to reflect environmental, safety, major repair, energy conservation and facilities restoration.</p> <p>(CONTINUED ON PAGE 2 )</p>												

P-1 SHOPPING LIST

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BUDGET ITEM JUSTIFICATION SHEET P-40							DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA 2 - Other Missiles							P-1 ITEM NOMENCLATURE Weapons Industrial Facilities					
Program Element for Code B Items:							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY												
COST (In Millions)	\$532.3		\$30.0	\$26.0	\$20.2	\$8.5	\$8.2	\$8.9	\$9.1	\$9.2	CONT	CONT
( CONTINUED FROM PAGE 1 )												
<p>- ENVIRONMENTAL: Provides funds to eliminate environmental deficiencies in compliance with local, state, and federal regulations. These regulations mandate requirements which must be met if plant shutdowns, criminal liability, and severe financial penalties are to be avoided.</p> <p>- SAFETY: Provides funds to eliminate safety deficiencies in compliance with local, state, and federal OSHA regulations. These regulations mandate requirements which must be met if plant shutdowns and severe financial penalties are to be avoided.</p> <p>- MAJOR REPAIR: Provides funds for critical upgrades to maintain high liability areas such as fire and security systems, roofs, boilers, electrical distribution systems, bridge crane systems, and other structural repairs essential to maintain the industrial integrity of the plant.</p> <p>- ENERGY CONSERVATION: Provides funds to decrease energy consumption by installing new energy efficient systems and provides increased maintenance on these systems. Mandated in 1993 by Congress (Defense Appropriations Committee).</p> <p>- FACILITIES RESTORATION: Provides funds for replacement of Weapons Industrial Facilities that have exceeded their useful life and deteriorated beyond safe operations.</p>												

P-1 SHOPPING LIST

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WEAPONS SYSTEM COST ANALYSIS P-5				Weapon System						DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy BA 2 - Other Missiles				ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD Weapons Industrial Facilities/NAVSEA										
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS												
			Prior Years	FY 1998			FY 1999			FY 2000			FY 2001		
			Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
	Capital Type Rehabilitator														
	Environmental					1,000			2,730			1,700			
	Safety				516			1,050			797				
	Energy Conservation				400			426			0				
	Major Repairs				800			1,050			1,175				
	Facilities Restoration (ABL)				25,000			18,000			13,000				
	NWIRP, McGregor, TX				2,242			2,704			3,407				
	NWIRP, Toledo, OH				0			0			120				
					<b>0</b>			<b>29,958</b>			<b>25,960</b>			<b>20,199</b>	

<b>BUDGET ITEM JUSTIFICATION SHEET</b>	<b>DATE</b> February 1999
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<b>APPROPRIATION/BUDGET ACTIVITY</b> WP,N - BA2 OTHER MISSILES							<b>P-1 ITEM NOMENCLATURE</b> Fleet Satellite Communications Follow-On 2433			<b>SUBHEAD</b>	
	<b>PY</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>TO COMP</b>	<b>TOTAL</b>
<b>QUANTITY</b>											
<b>COST (in millions)</b>					<b>\$167.7</b>	<b>\$2.0</b>	<b>\$1.9</b>	<b>\$50.0</b>	<b>\$61.1</b>		

PROGRAM COVERAGE: The Ultra High Frequency (UHF) Follow-On (UFO) communications satellite constellation satisfies DoD worldwide UHF communications requirements. The current constellation will be near its design life in 2003. The funding in this line will provide for the procurement of one additional UFO satellite by FY03 and then for the replacement of the entire UFO constellation starting in FY07 with a new Mobile User Objective system (MUOS).

The availability of the UFO satellite constellation is expected to dip below 70% by FY03 if no action is taken. The additional satellite (F11) will help mitigate risks and boost the overall availability of the UFO constellation. F11 will be procured as an option to the existing Hughes contract, at an estimated program cost of \$205 million (including \$24M in RDT&E,N for digital receiver and \$9.8M in Advanced Procurement WPN) will be launched in FY03. The current level of funding provides for an UHF/EHF payload with a new, more capable digital receiver (new receiver necessary due to parts obsolescence).

The FY 2004 and FY 2005 funding is to procure the next generation satellite constellation, called Mobile User Objective System (MUOS), that will start to replace the UFO system in 2007.

JUSTIFICATION OF BUDGET YEAR REQUIREMENTS: Funding in FY00 through FY03 will procure the F11 satellite, for launch in FY03, to fill the void until a new satellite constellation can be put in place. The impact of not procuring the satellite is a steadily decreasing availability of UHF satellite communications. Since the demand for UHF communications already exceeds the availability, the reduction of such service will result in an unacceptable tactical operations scenario. Funding in FY04 and FY05 is to start to procure the next generation constellation to replace the UFO in 2007 and boost communications capability. Failure to procure this next generation constellation could result in total loss of UHF communications when the UHF Follow-On constellation dies.

<b>BUDGET ITEM JUSTIFICATION SHEET</b>							<b>DATE</b> February 1999				
<b>APPROPRIATION/BUDGET ACTIVITY</b>							<b>P-1 ITEM NOMENCLATURE</b>		<b>SUBHEAD</b>		
							WP,N - BA2 OTHER MISSILES				
								<b>PY</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>FY 2000</b>
							<b>QUANTITY</b>				
							<b>COST</b> <b>(in millions)</b>				<b>\$9.8</b>

**PROGRAM COVERAGE:** The Ultra High Frequency (UHF) Follow-On communications satellite constellation satisfies DoD worldwide UHF communications requirements. The current constellation will be near its design life in 2003. The funding in this line will provide for the procurement of long lead time material (LLTM) for a gapfiller satellite (F11) to be launched in FY03. The availability of the UHF Follow-On (UFO) satellite constellation is expected to dip below 70% by FY03 if no action is taken. The gapfiller satellite (F11) will help mitigate risks and boost the overall availability of the UFO constellation. F11 will be procured as an option to the existing Hughes contract, at an estimated program cost of \$205 million and will be launched in FY03.

**JUSTIFICATION OF BUDGET YEAR REQUIREMENTS:** Funding in FY00 will procure LLTM for a gapfiller satellite, for launch in FY03, to fill the void until a new satellite constellation can be put in place. The impact of not procuring the satellite is a steadily decreasing availability of UHF satellite communications. Since the demand for UHF communications already exceeds the availability, the reduction of such service will result in an unacceptable tactical operations scenario.

FY00 funding of \$9.8M provides for F11 long lead time material procurement.

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COST ANALYSIS														DATE February 1999			
APPROPRIATION ACTIVITY WP,N - BA-2 OTHER MISSILES							P-1 ITEM NOMENCLATURE Fleet Satellite Communications Follow-On (Advance Procurement) 2433							SUBHEAD			
COST CODE	ELEMENT OF COST	ID CODE	TOTAL COST IN THOUSANDS OF DOLLARS														
			QTY	PY				FY 1998			FY 1999			FY 2000			
				TOTAL COST				QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	
4100	Long Lead Time Material																9,689
4400	Production Support																100
	<b>TOTAL CONTROL</b>																<b>9,789</b>
Remarks:																	

DD FORM 2446, JUN 86

Exhibit P-10, Advance Procurement Requirements Analysis (Page 1 - Funding)							Date: February 1999							
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number WP/N/BA2/ /243300							P-1 Line Item Nomenclature Fleet Satellite Communications Follow-On (Advance Procurement)							
Weapon System F-11 SATELLITE				First System (BY1) Award and Completion Date OCT 99/SEP 03				Interval between Systems N/A						
(\$ in Millions)														
	PLT	When Rqd	Prior Years	PY-1	PY	1999	2000	2001	2002	2003	2004	2005	To Complete	Total
End Item Qty 1	48							94.0						94.0
CFE *														
Master Oscillator Group		13					1.0							
UHF Antenna		13					1.6							
EHF Component		13					1.9							
Propulsion Components (Tank)		15					0.6							
Thrusters		15					1.2							
Earth Sensor		13					2.7							
Momentum Wheels							0.7							
Term Liab														
Other							0.1							
<b>Total AP</b>							9.8*							
<p>Description:</p> <p>*The items highlighted are components of major substructures of the end item. These substructures are required to be completed before integration in end item.</p> <p>** The Long Lead Time Material (LLTM) was generated in accordance with the Armed Services Pricing Manual (ASPM). Specific sources of data included: historical advanced economic order quantity (AEOQ) cost for flight 1 spacecraft (adjusted for 00 future value); historical material cost for flight 3 (F-10) which was procured without AEOQ; actual cost incurred from previous related procurements and cost models utilized by the prime contractor.</p> <p>Items listed above under CFE were designated LLTM due their significant longer leadtimes than other components of the end item, their unique special order status and their existence on the program schedule's critical path. Since many of these items are also major subcontract items, the contract and negotiation process also injected schedule uncertainty in these critical path items. All cost estimates are in FY00 dollars. Other is for production and material management support.</p>														

Exhibit P-10, Advance Procurement Requirements Analysis (Page 2 - Budget Justification)										Date: February 1999	
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number WP/N/BA2/ /243300							Weapon System F-11 SATELLITE		P-1 Line Item Nomenclature Fleet Satelte Communications Follow-On (AP)		
(TOA, \$ in Millions)											
	PLT	QPA	Unit Cost	BY1 QTY*	BY1 Contract Forecast Date	BY1 Total Cost Request	BY2 QTY*	BY2 Contract Forecast Date	BY2 Total Cost Request		
End Item	48	N/A				N/A	1	Oct-00	94.0		
CFE											
Master Oscillator Group	12	1	1.0	1	Oct-99	1.0	N/A	N/A			
UHF Antenna	10	2	0.8	2	Oct-99	1.6	N/A	N/A			
EHF Component	10	1	1.9	1	Oct-99	1.9	N/A	N/A			
Propulsion Components (Tank)	14	6	0.1	6	Oct-99	0.6	N/A	N/A			
Thrusters	13	12	0.1	12	Oct-99	1.2	N/A	N/A			
Earth Sensor	13	1	2.7	1	Oct-99	2.7	N/A	N/A			
Momentum Wheels	12	2	0.4	2	Oct-99	0.7	N/A	N/A			
Term Liability Other											
Other						0.1					
<b>Total AP</b>						9.8					
Description:											
The total LLTM cost of \$9.8M is estimated as described on Page 1 of Exhibit P-10. Termination liability is not applicable because LLTM items are fully funded.											

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: February 1999																																	
APPROPRIATION/BUDGET ACTIVITY <b>WEAPONS PROCUREMENT, NAVY</b> <b>BA-2: Other Missiles</b>								P-1 ITEM NOMENCLATURE/LINE ITEM # Ordnance Support Equipment - BLI #250000																																	
Program Element for Code B Items:								OTHER RELATED PROGRAM ELEMENTS																																	
	Prior Years	ID Code		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total																												
QUANTITY													0																												
EQUIPMENT COST (In Millions)													\$40.1																												
	N/A			\$5.1	\$6.2	\$4.1	\$3.3	\$4.3	\$5.6	\$5.7	\$5.8																														
SPARES COST (In Millions)													0																												
<b>PROGRAM DESCRIPTION/JUSTIFICATION:</b>																																									
No justification materials are submitted in this backup book due to security considerations.																																									
<table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: center;"><u>FY 1998</u></td> <td style="text-align: center;"><u>FY 1999</u></td> <td style="text-align: center;"><u>FY 2000</u></td> <td style="text-align: center;"><u>FY 2001</u></td> <td style="text-align: center;"><u>FY 2002</u></td> <td style="text-align: center;"><u>FY 2003</u></td> <td style="text-align: center;"><u>FY 2004</u></td> <td style="text-align: center;"><u>FY 2005</u></td> <td colspan="5"></td> </tr> <tr> <td style="text-align: right;">Funding Totals</td> <td style="text-align: right;">\$5,139</td> <td style="text-align: right;">\$6,190</td> <td style="text-align: right;">\$4,125</td> <td style="text-align: right;">\$3,278</td> <td style="text-align: right;">\$4,312</td> <td style="text-align: right;">\$5,583</td> <td style="text-align: right;">\$5,721</td> <td style="text-align: right;">\$5,840</td> <td colspan="5"></td> </tr> </table>															<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>						Funding Totals	\$5,139	\$6,190	\$4,125	\$3,278	\$4,312	\$5,583	\$5,721	\$5,840					
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>																																	
Funding Totals	\$5,139	\$6,190	\$4,125	\$3,278	\$4,312	\$5,583	\$5,721	\$5,840																																	

**UNCLASSIFIED**

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40							DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3							P-1 ITEM NOMENCLATURE ASW TARGETS LI# 314100					
Program Element for Code B Items:							Other Related Program Elements					
	FY 1997 & prior	ID Code	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
QTY MODS MK-39/1	N/A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
QTY MODS MK-30/2	N/A	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COST (\$M)	\$0.0		\$0.7	\$4.1	\$2.0	\$3.2	\$14.2	\$13.8	\$26.0	\$26.7	Cont.	\$90.7
Initial Spares (\$M)	\$0.0		\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total (\$M)	\$0.0		\$0.7	\$4.1	\$2.0	\$3.2	\$14.2	\$13.8	\$26.0	\$26.7	\$0.0	\$90.7
Unit Cost (\$M)												

**ITEM DESCRIPTION/JUSTIFICATION:**

This line item funds two distinct systems: (a) MK 39 Mod 1 (Cost Codes TG002, TG832, TG842, TG852, TG862 and TG902) and (b) MK30 Mod 2 (Cost Codes TG005, TG015, TG835, TG865 and TG905). Both systems contain Cost Code TG900.

The MK 39 Mod 1 Expendable Mobile ASW Training Target (EMATT) is a small self-propelled underwater vehicle launchable from fixed wing and rotary wing ASW aircraft and ASW surface ships for the purpose of providing basic, open ocean sonar training and MK 46, MK 48, ADCAP and MK 50 placement exercises. Its operation consist of a three hour dynamic run trajectory that is actively controlled in depth and course with pre-programmable run maneuvers and is capable of generating a magnetic field (anomaly) detectable by all current Navy Magnetic Anomaly Detectors (MAD).

CLASSIFICATION: Unclassified

APPROPRIATION: Weapons Procurement, Navy <b>WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)</b>							DATE: February 1999			
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BUDGET ACTIVITY: BA-3: Torpedo and Related Equipment				P-1 ITEM NOMENCLATURE: ASW Targets				SUBHEAD: C3TG		
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COST CODE	ELEMENT OF COST	FY 1998		FY 1999		FY 2000			
		QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST

	MK39 Mod 1 - EMATT		\$659		\$4,113		\$1,996		
			\$659		\$4,113		\$1,996		

P-1 SHOPPING LIST LINE ITEM NO.		PAGE NO.	CLASSIFICATION: Unclassified
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CLASSIFICATION: Unclassified

APPROPRIATION: Weapons Procurement, Navy							WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)			DATE: February 1999	
BUDGET ACTIVITY: BA-3: Torpedo and Related Equipment					P-1 ITEM NOMENCLATURE: ASW Targets - EMATT				SUBHEAD: C3TG		
COST CODE	ELEMENT OF COST	QTY	FY 1998		FY 1999		FY 2000				
			QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST			
TG002	N86 MK39 Mod 1 - EMATT (N86)			\$604	1,125	\$2,819	500	\$1,351			
TG832	Prod Eng (In-house) (N86)			\$41		\$868		\$530			
TG842	Quality Assurance (N86)			\$0		\$100		\$10			
TG852	Product Improvement (N86)			\$0		\$75		\$0			
TG862	Acceptance T & E (N86)			\$0		\$140		\$55			
TG902	Consulting Services (N86)			\$14		\$111		\$50			
				\$659		\$4,113		\$1,996			
P-1 SHOPPING LIST					PAGE NO.		CLASSIFICATION: Unclassified				
LINE ITEM NO.					3						

CLASSIFICATION: Unclassified

APPROPRIATION: Weapons Procurement, Navy										DATE: February 1999	
BUDGET ACTIVITY: BA-3: Torpedo and Related Equipment					P-1 ITEM NOMENCLATURE: ASW Targets					SUBHEAD: C3TG	
COST CODE	FISCAL YEAR ELEMENT OF COST	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST	SPECS AVAIL NOW WHEN	ARE SPEC REVISIONS REQUIRED?	IF YES, WHEN AVAILABLE
<b>FY 1997</b>											
TG002	MK39 Mod 1 - EMATT/ECPs	Sippican, Inc. Marion, MA	C/FFP	NAVSEA	Jun-97	Sep-98	1,000	\$2,495	Yes	No	
<b>FY 1999</b>											
TG002	MK39 Mod 1 - EMATT/ECPs	Sippican, Inc. Marion, MA	C/FFP-Option	NAVSEA	Dec-98	Sep-99	1,125	\$2,398	Yes	No	
<b>FY 2000</b>											
TG002	MK39 Mod 1 - EMATT/ECPs	Sippican, Inc. Marion, MA	C/FFP-Option	NAVSEA	Nov-99	Sep-00	500	\$2,740	Yes	No	
<b>REMARKS:</b>											
Starting in FY97, MK39 EMATT procurements represent MK39 Mod 1 instead of MK39 Mod 0.											

P-1 SHOPPING LIST	
LINE ITEM	PAGE NO.
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CLASSIFICATION: Unclassified





CLASSIFICATION: Unclassified

<b>EXHIBIT P-20, REQUIREMENTS STUDY</b>	APPROPRIATION: Weapons Procurement, Navy	BA-3: Torpedo and Related Equipment	DATE: February 1999
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P-1 ITEM NOMENCLATURE: ASW Targets - EMATT	SUBHEAD: C3TG	Admin Leadtime (after Oct 1): 4	Prod Leadtime: 10
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	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Buy Summary	0	1,125	500	500	500	500	500	500
Unit Cost	0	2,398	2.74	2.764	2.656	2.728	3.018	3.594
Total Cost*	0	2,769	1,370	1,382	1,328	1,364	1,509	1,797
<b>Asset Dynamics</b>								
Beginning Asset Position	4,811	6,146	5,888	5,541	4,673	3,805	2,937	2,069
Deliveries from all prior year funding	2,700	0	0	0	0	0	0	0
Deliveries from FY 97 funding	35	965	0	0	0	0	0	0
Deliveries from FY 98 funding		0	0	0	0	0	0	0
Deliveries from FY 99 funding	0	187	938	0	0	0	0	0
Deliveries from subsequent years' funding	0	0	83	500	500	500	500	500
Other Gains	0	0	0	0	0	0	0	0
Combat Losses/Usage	0	0	0	0	0	0	0	0
Training Losses/Usage	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Test Losses/Usage	75	90	48	48	48	48	48	48
Other Losses/Usage	25	20	20	20	20	20	20	20
Disposals/Retirements/Attritions/Etc.	0	0	0	0	0	0	0	0
<b>End of Year Asset Position</b>	6,146	5,888	5,541	4,673	3,805	2,937	2,069	1,201
Inventory Objective or Current Authorized Allowance	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)	Vehicles Eligible for FY 98 Replacement	Aircraft: TOAI:	n/a		
Assets Rqd for Combat Loads: 885	FY 98 thru 31-May-1998: 580	FY 98 thru 31-May-1998: 76	FY 98 thru 31-May-1998:	Vehicles Eligible for FY 99 Replacement	PAA: TAI:	n/a		
WRM Rqmt:	FY 1997 705	FY 1997 120	FY 1997 0	Vehicle Augment:	Attrition Res:	0		
Pipeline: 500	FY 1996 771	FY 1996 100	FY 1996 0		BAI	0		
Other: 415	FY 1995 839	FY 1995 120	FY 1995 0		Inactive Inv:	0		
<b>TOTAL:</b> 1,800	2,895	416			Storage:	0		

**REMARKS:**  
Starting in FY97, MK39 EMATT procurements represent MK39 Mod 1 instead of MK39 Mod 0.

P-1 SHOPPING LIST	
LINE ITEM NO.	PAGE NO.
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CLASSIFICATION: Unclassified

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: <b>February 1999</b>				
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/ Torpedoes &amp; Related Equipment, BA-3</b>							P-1 ITEM NOMENCLATURE <b>Torpedo MK46 Mods/MK54 Mod 0, C3F5, LI# 321500</b>					
Program Element for Code B Items: <b>0204228N</b>							Other Related Program Elements					
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000*	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total**
QUANTITY LHT	0	B	0	0	16	39	53	73	97	97	625	1000
(In Millions)	\$35.2		\$0.3	\$0.0	\$28.7	\$25.2	\$29.6	\$35.5	\$37.8	\$38.8	\$296.2	\$491.9
Initial Spares (\$M)	\$1.8		\$0.8	\$0.8	\$0.8	\$1.2	\$1.2	\$1.6	\$3.1	\$3.0	\$6.0	\$16.9
Total (\$M)	\$37.0		\$1.1	\$0.8	\$29.5	\$26.4	\$30.8	\$37.1	\$40.9	\$41.8	\$302.2	\$508.8
Unit Cost (\$M)	\$0.03		\$0.00	\$0.00	\$1.84	\$0.68	\$0.58	\$0.51	\$0.42	\$0.43	\$0.48	\$0.51

**ITEM DESCRIPTION/JUSTIFICATION:**

The MK46 is an in-service lightweight torpedo designed for launch from surface vessel torpedo tubes, VLA, and fixed/rotary wing aircraft. The product improvement program will improve effectiveness (ASROC retired from active service 30 Sept 1997).

The Lightweight Hybrid Torpedo (LHT) is a modular evolution building from the MK46 and MK50 torpedo. It is comprised of the MK50 sonar, MK46 warhead and propulsion system and new COTS processors which will use tactical software derived from MK50 and MK48 ADCAP. The LHT will provide improved performance against diesel electric submarine threats operating in shallow water. The LHT LRIP contract will begin in FY00.

\* FY00 Total Control of \$28.7M includes \$1.7M for SLEP Kits assembly completion. Revised P-40 Unit Cost (less \$1.7M SLEP Kit assemblies) is \$1.74M for LHT only, vice combined unit cost of \$1.84M.

\*\* FY97 was the last year in which SLEP kits were procured. FY98-FY99 reflect kit assembly and engineering support. The LHT Funding Totals above reflect funding from FY00 and out, with the exception of \$1.7M in FY00 for the completion of SLEP Kit assembly.

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

WEAPONS SYSTEM COST ANALYSIS P-5								Weapon System			DATE: February 1999			
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-3						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD Torpedo MK46 Mods/MK54 Mod 0, C3F5, LI# 321500							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLAR:											
			FY 1998			FY 1999			FY 2000					
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F5103	<u>SLEP Hardware</u>	A	0	0	0	0	0	0	0	0	1700*			
F5104	<u>HYBRID Hardware</u>	B	0	0	0	0	0	0	16	465	7,438			
F5105	<u>Exercise Head</u>				0			0			2,000			
F5XXX	<u>MK54 Platform Integration</u>				0			0			5,700			
F5YYY	<u>MK54/VLA Flight &amp; Integration</u>				0			0			3,000			
F5003	<u>Support Equipment</u>				0			0			1,665			
F5830	<u>Production Engineering (In-House)</u>				211			15			2,308			
F5860	<u>Acceptance Test &amp; Evaluation</u>				30			0			3,922			
F5900	<u>Production Engineering (Contractor)</u>				25			0			966			
<b>TOTAL</b>			<b>0</b>	<b>0</b>	<b>266</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>16</b>	<b>465</b>	<b>28,699</b>			

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P-1 SHOPPING LIST

CLASSIFICATION:

\*FY00 F5103 \$1.7M represents funding required for assembly of SLEP kits previously procured (FY96-FY97).

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: MK46 SLEP TYPE MODIFICATION: MODIFICATION TITLE: Bottom Avoidance/CCM Shallow Water/Aft Seal (F5103)

DESCRIPTION/JUSTIFICATION:

The Counter-Counter Measure (CCM) Shallow Water modification modifies algorithms and PWBs in the control group of the MK46 torpedo to improve performance against counter-measures in a shallow water environment. The Aft Seal modification provides an improved seal on the drive shaft of the MK46 torpedo to prevent water entry. The Bottom Avoidance modification provides search depth setting limitations on the MK46 torpedo to provide bottom avoidance in shallow water environments.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

	FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC	TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$		
FINANCIAL PLAN (\$THOUSANDS)																								
<i>RD&amp;E</i>																							0	0
<i>PROCUREMENT</i>																								0
INSTALLATION KITS	1,075	16,938	73	905	0	0	0	0	1700*														1,148	19,543
INSTALLATION KITS NONRECURRING																								0
EQUIPMENT																								0
EQUIPMENT NONRECURRING																								0
ENGINEERING CHANGE ORDERS																								0
DATA																								0
TRAINING EQUIPMENT																								0
SUPPORT EQUIPMENT																								0
OTHER		15,967		423		241		15	0															16,646
OTHER																								0
OTHER																								0
INTERIM CONTRACTOR SUPPORT		990		0		25		0	0															1,015
INSTALL COST																								0
TOTAL PROCUREMENT	1,075	33,895	73	1,328	0	266	0	15	0	1,700	0	0	0	0	0	0	0	0	0	0	0	0	1,148	37,204

\*FY2000 Installation Kits reflects \$1.7M SLEP Assembly allocation resulting from PBD 752 Readiness Enhancement plus up.

CLASSIFICATION: UNCLASSIFIED

P3A (Continued) **INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: MK46 SLEP MODIFICATION TITLE: Bottom Avoidance/CCM Shallow Water/Aft Seal (F5103)

INSTALLATION INFORMATION:  
 METHOD OF IMPLEMENTATION: **Firm Fixed Price Contract - Raytheon contracted by NAVSEA**  
 ADMINISTRATIVE LEADTIME: NA PRODUCTION LEADTIME: NA  
 CONTRACT DATES: FY 1996: Apr-96 FY 1997: Mar-97  
 DELIVERY DATE: FY 1996: Feb-97 FY 1997: Jan-98

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PRIOR YEARS																								
FY 1995 EQUIPMENT																								
FY 1996 EQUIPMENT																								
FY 1997 EQUIPMENT																								
FY 1998 EQUIPMENT																								
FY 1999 EQUIPMENT																								
FY 2000 EQUIPMENT																								
FY 2001 EQUIPMENT																								
FY 2002 EQUIPMENT																								
FY 2003 EQUIPMENT																								
FY 2004 EQUIPMENT																								
FY 2005 EQUIPMENT																								
TO COMPLETE																								
Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

	FY 1997	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
In	670	105	80	0	105	105	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1148
Out*	669	56	57	57	57	0	0	0	0	63	63	63	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1148

P-3A

\*SLEP Installation Schedule Outputs reflect shift from FY1999 to FY2000 due to \$1.7M reallocation of FY1997 WPN funding.

CLASSIFICATION: UNCLASSIFIED

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: MK54 Mod 0 TYPE MODIFICATION: MODIFICATION TITLE: HYBRID Hardware (F5104)

DESCRIPTION/JUSTIFICATION:

The Lightweight Hybrid Torpedo (LHT) is a modular upgrade, designed to take advantage of the current USN Investments in hardware and technology by utilizing components from the MK46 & MK50 Torpedoes, as well as commercial off-the-shelf (COTS) processor components with open systems architecture. In addition, it will integrate software improvements gained from the MK50 Shallow Water Performance Program.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Development testing begins 2nd qtr FY99, OPEVAL complete 2nd qtr FY02

	FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<b>FINANCIAL PLAN (\$THOUSANDS)</b>																									
<i>RD&amp;E</i>		38,425		10,381		15,773		7,929		9,297		8,684		7,966		2,895		2,996		1,747					106,093
<i>PROCUREMENT</i>																									
INSTALLATION KITS									16	7,438	39	13,788	53	18,275	73	22,156	97	25,987	97	26,100	625	190,455	1,000	304,199	
INSTALLATION KITS NONRECURRING																									0
EQUIPMENT										2,000		0		1,452		2,102		0		0		0			5,554
EQUIPMENT NONRECURRING																									0
ENGINEERING CHANGE ORDERS																									0
DATA																									0
TRAINING EQUIPMENT																									0
SUPPORT EQUIPMENT										1,665		1,219		203		199		196		213		2,563			6,258
OTHER										6,230		9,142		8,702		9,692		10,181		10,324		80,346			134,617
OTHER NONRECURRING*										8,700															8,700
OTHER																									0
INTERIM CONTRACTOR SUPPORT										966		925		934		946		963		1,208		12,142			18,084
INSTALL COST										0		130		44		439		506		964		10,686			12,769
<b>TOTAL PROCUREMENT</b>	0	0	0	0	0	0	0	0	16	26,999	39	25,204	53	29,610	73	35,534	97	37,833	97	38,809	625	296,192	1,000	490,181	

\* OTHER NONRECURRING reflects FY2000 MK54 Platform Integration and MK54/VLA Flight and Integration efforts, as identified on P-5 exhibit.

CLASSIFICATION: UNCLASSIFIED

P3A (Continued) **INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: MK54 Mod 0 MODIFICATION TITLE: HYBRID Hardware (F5104)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Firm Fixed Price Contract - Contractor TBD**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 21 Months

CONTRACT DATES: FY1999: \_\_\_\_\_ FY 2000:\* Jan-00 FY 2001\*\* \_\_\_\_\_ FY 2002: \_\_\_\_\_ FY 2003: \_\_\_\_\_  
 DELIVERY DATE: FY1999: \_\_\_\_\_ FY 2000: Jun-01 FY 2001: \_\_\_\_\_ FY 2002: \_\_\_\_\_ FY 2003: \_\_\_\_\_

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																									
FY 1995 EQUIPMENT																									
FY 1996 EQUIPMENT																									
FY 1997 EQUIPMENT																									
FY 1998 EQUIPMENT																									
FY 1999 EQUIPMENT																									
FY 2000 EQUIPMENT										12	130	4	44										16	174	
FY 2001 EQUIPMENT														39	439								39	439	
FY 2002 EQUIPMENT																44	506	9	106				53	612	
FY 2003 EQUIPMENT																		73	858				73	858	
FY 2004 EQUIPMENT																				97	1165	97	1,165		
FY 2005 EQUIPMENT																				97	1191	97	1,191		
TO COMPLETE																					625	8330	625	8,330	
Totals								0	0	0	0	12	130	4	44	39	439	44	506	82	964	819	10,686	1000	12,769

0

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	4	0	0	0	9	9	11	10	4	12	13	15	27	18	19	18	819	1000
Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	7	9	9	11	10	4	12	13	15	27	18	856	1000

\* Installation of FY00 Procurements: Production leadtime is 17 months from contract award.  
 \*\* Installation of FY01-out Procurements: Production leadtime is 21 months from contract award

**CLASSIFICATION:**

<b>BUDGET ITEM JUSTIFICATION SHEET</b>										DATE:		
<b>P-40</b>										<b>February 1999</b>		
APPROPRIATION/BUDGET ACTIVITY							P-1 ITEM NOMENCLATURE					
<b>Weapons Procurement, Navy/ Torpedoes &amp; Related Equipment, BA-3</b>							<b>Improved Submarine-Launched Mobile Mine (ISLMM) BLI: 322100</b>					
Program Element for Code B Items:							Other Related Program Elements					
<b>0204304N</b>												
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY (ISLMM)		B	0	0	0	20	100	80	0	0	0	200
COST (\$M)			\$0.0	\$0.0	\$0.0	\$5.9	\$9.8	\$8.8	\$0.0	\$0.0	\$0.0	\$24.5
Initial Spares (\$M)			\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total (\$M)			\$0.0	\$0.0	\$0.0	\$5.9	\$9.8	\$8.8	\$0.0	\$0.0	\$0.0	\$24.5
Unit Cost (\$M)			\$0.0	\$0.0	\$0.0	\$0.295	\$0.098	\$0.110	\$0.000	\$0.000	\$0.0	\$0.123

**ITEM DESCRIPTION/JUSTIFICATION:**

The Improved Submarine-Launched Mobile Mine (ISLMM) will be used to sustain and improve the USN covert mining capability by converting existing MK48 Torpedoes into dual warhead mines. The Mission Need Statement (MNS) of the ISLMM indicates a Fleet need to have a covert mining capability and to eliminate reliability and obsolescence problems associated with the existing MK 67 SLMM. The ISLMM will feature: dual mine sections (warheads); increased compatibility with SSN-688 class fire controls systems; multiple-waypoint turn capability; greater range than the present MK67 SLMM, and utilize two advanced Target Detection Devices (TDD) MK71 per weapon.

CLASSIFICATION:

**UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40							DATE: <b>February 1999</b>					
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy/ Torpedoes &amp; Related Equipment, BA-3</b>							P-1 ITEM NOMENCLATURE <b>MK48 ADCAP MODS TORPEDO (C3D1), LI# 322500</b>					
Program Element for Code B Items: <b>0204284N</b>							Other Related Program Elements					
	FY 1997 & prior	ID Code	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
QUANTITY MODS	373	A	118	83	108	67	60	62	62	62	129	1124
QUANTITY CBASS	0	B	0	0	0	0	16	64	86	137	821	1124
COST (\$M)	\$158.4		\$53.5	\$49.3	\$52.8	\$38.8	\$46.6	\$60.2	\$59.4	\$71.2	\$413.1	\$1,003.2
Initial Spares (\$M)	\$2.6		\$0.3	\$3.3	\$3.3	\$2.7	\$3.3	\$3.4	\$4.3	\$5.2	\$29.0	\$57.4
Total (\$M)	\$161.0		\$53.8	\$52.6	\$56.1	\$41.5	\$49.9	\$63.6	\$63.7	\$76.4	\$442.1	\$1,060.6
Unit Cost (\$M)	\$0.42		\$0.46	\$0.63	\$0.52	\$0.62	\$0.66	\$0.50	\$0.43	\$0.38	\$0.47	\$0.47

**ITEM DESCRIPTION/JUSTIFICATION:**

This line item procures Modification Kits for the MK48 ADCAP Torpedo. The MK48 ADCAP MODS program incorporates both a Guidance and Control (G&C) modification and a Torpedo Propulsion Upgrade (TPU) modification to the baseline ADCAP system.

The G&C Modification addresses the need to increase memory and processing capacity of the G&C hardware and to replace obsolete and sunset electronic component parts. The increased capacity is required for future advanced signal processing techniques that will be needed for performance upgrades in shallow water target detection/classification. The TPU addresses the Navy's operational requirement for a quieter ADCAP torpedo. These modifications will allow the MK48 ADCAP torpedo to operate effectively in adverse environments, thus enabling the MK48 ADCAP torpedo to counter enemy submarine threats into the 21st century.

The Common Broadband Advanced Sonar System (CBASS), starting in FY02 with the purchase of 16 LRIP units, will incorporate into the ADCAP MODS torpedo a new wide band sonar system and software algorithms. These new elements will provide the capability to transmit and receive over a wide frequency band to take advantage of broadband signal processing techniques. These improvements are necessary to overcome current and future improvements in advanced threat countermeasures capabilities.

RDT&E PE #0205632N, PU #V0366

CLASSIFICATION:

**UNCLASSIFIED**

WEAPONS SYSTEM COST ANALYSIS P-5						Weapon System			DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/ Torpedoes & Related Equipment, BA-						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD MK48 ADCAP MODS TORPEDO (C3D1), LI# 32250C							
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS											
			FY 1998			FY 1999			FY 2000			FY 2001		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
D1001	ADCAP MODS	A	118	212.41	25,064	83	267.61	22,212	108	229.02	24,734			
D1003	Support and Ancillary Equipment				2,513			2,717			2,787			
D1830	Production Engineering (Contractor)				6,171			5,941			5,886			
D1830	Production Engineering (In-House)				7,437			7,428			8,141			
D1860	Acceptance Test & Evaluation (Contractor)				810			865			863			
D1860	Acceptance Test & Evaluation (In-House)				11,506			10,090			10,344			
<b>TOTAL</b>					<b>53,501</b>			<b>49,253</b>			<b>52,755</b>			

CLASSIFICATION: UNCLASSIFIED

P3A **INDIVIDUAL MODIFICATION**

MODELS OF SYSTEM AFFECTED: MK48 ADCAP MODIFICATION TITLE: MK48 ADCAP MODS Torpedo (D1001)

DESCRIPTION/JUSTIFICATION:

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: MS II approved in Jan 1993; MS III approved in Apr. 1996

FINANCIAL PLAN (IN MILLIONS)	FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		IC		TOTAL		
	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	QTY	\$	
<i>RDT&amp;E</i>		16,434		10,275		6,847		11,710		9,977															
<i>PROCUREMENT</i>																									
INSTALLATION KITS	238	32,124	135	18,529	118	16,586	83	14,067	108	21,104															
INSTALLATION KITS NONRECURRING EQUIPMENT																									
EQUIPMENT NONRECURRING		2,320																							
ENGINEERING CHANGE ORDERS																									
DATA																									
TRAINING EQUIPMENT																									
SUPPORT EQUIPMENT		6,528		2,593		2,513		2,717		2,787															
OTHER		55,062		21,640		21,084		19,927		20,740															
OTHER																									
INTERIM CONTRACTOR SUPPORT		10,052		5,200		4,840		4,397		4,494															
INSTALL COST		0		4,351		8,478		8,145		3,630															
TOTAL PROCUREMENT	238	106,086	135	52,313	118	53,501	83	49,253	108	52,755															

CLASSIFICATION: UNCLASSIFIED

P3A (Continued) **INDIVIDUAL MODIFICATION (Continued)**

MODELS OF SYSTEMS AFFECTED: MK48 ADCAP

MODIFICATION TITLE: MK48 ADCAP MODS Torpedo

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: FPI - Northrop Grumman/Raytheon contracted by NAVSEA.

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 16 Months

DELIVERY DATE: FY1997: Jan-97

FY1998: Apr-98

FY1999: Jan-99

DELIVERY DATE: FY1997: May-98

FY1998: Aug-99

FY1999: May-00

(\$ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		To Complete		Total		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PRIOR YEARS																									
FY 1995 EQUIPMENT			88	3988																				88	3988
FY 1996 EQUIPMENT			8	363	142	6579																		150	6942
FY 1997 EQUIPMENT					41	1899	94	4451																135	6350
FY 1998 EQUIPMENT							78	3694	40	1936														118	5630
FY 1999 EQUIPMENT									35	1694														35	1694
FY 2000 EQUIPMENT																									
FY 2001 EQUIPMENT																									
FY 2002 EQUIPMENT																									
FY 2003 EQUIPMENT																									
FY 2004 EQUIPMENT																									
FY 2005 EQUIPMENT																									
TO COMPLETE																									
Totals			96	4351	183	8478	172	8145	75	3630														526	24604

INSTALLATION SCHEDULE: Input=Delivery to the Facility, Output=Facility providing to Fleet, ready for issue

	FY 1997 & Prior	FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				TC	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4						
In	96	26	43	57	57	57	50	53	12	0	20	34	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Out	0	0	0	9	50	70	81	73	70	80	54	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

P-3A

CLASSIFICATION:

BUDGET ITEM JUSTIFICATION SHEET P-40						DATE: February 1999						
<b>APPROPRIATION/BUDGET ACTIVITY</b> <b>WEAPONS PROCUREMENT, NAVY</b> <b>BA-3: TORPEDOES AND RELATED EQUIPMENT</b>						<b>P-1 ITEM NOMENCLATURE/LINE ITEM #</b>  <p style="text-align: center;"><b>QUICKSTRIKE/323100</b></p>						
<b>Program Element for Code B Items:</b>						<b>OTHER RELATED PROGRM ELEMENTS</b>						
	Prior Years	ID Code	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
<b>QUANTITY</b>												<b>\$0.0</b>
<b>EQUIPMENT COST (In Millions)</b>	N/A	A	\$0.0	\$0.0	\$0.0	\$2.0	\$3.9	\$3.3	3.2	3.2	N/A	\$15.6
<b>SPARES COST (In Millions)</b>	N/A	A	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	0	0	N/A	\$0.0
<b>PROGRAM DESCRIPTION/JUSTIFICATION:</b>												
<p>ITEM DESCRIPTION/JUSTIFICATION:                      The QUICKSTRIKE family of mines consist of the MK-62 and MK-63 (500 lb. And 1000 lb. Mines) based on MK-82 and MK-83 general purpose bombs respectiv and the MK-65 (2000 lb.) mine. The Mod 0,1, and 3 variants utilize various target detection devices (TDD). QUICKSTRIKE Mod 3 utilizes a newly developedTDD, MK-71. The MK-71 is a software-programmabledevice that is capable of being programmed to optimize detection of new threats. The QS Mod 3 Kit will consist of TDD MK-71, MK-75 Mod 1 safe/arming device, and various adapters and batteries (for each mine type). Additional support hardwareinclude Test Sets MK-649 and 650, and Presetter MK-11.</p>												

P-1 SHOPPING LIST

CLASSIFICATION:

CLASSIFICATION:

**UNCLASSIFIED**

**BUDGET ITEM JUSTIFICATION SHEET**

**P-40**

DATE:

**February 1999**

APPROPRIATION/BUDGET ACTIVITY

**Weapons Procurement, Navy/Torpedo and Related Equipment**

P-1 ITEM NOMENCLATURE

**Torpedo Support Equipment/ C3F8**

Program Element for Code B Items:

**LI #330100**

Other Related Program Elements

	Prior Years	ID Code	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY													
COST (In Millions)			\$20.6	\$24.2	\$24.1	\$23.4	\$23.3	\$22.4	\$26.3	\$25.7	\$26.2		\$216.2

The Torpedo Support Equipment account procures various torpedo components required to ready weapons for Anti-Submarine Warfare forces afloat, Sub-Surface, Fixed Wing, and Rotary to achieve and maintain a readiness posture sufficient to counter the enemy sub-surface threat. The objective of this line is to provide the fleet with ready exercise weapons for conducting training maneuvers which involve actually firing the torpedoes, and to maintain warshot inventories in an operational ready-for-issue status in support of combat ready deployment by anti-submarine warfare forces. After a torpedo is fired during a training exercise it is recovered and all expendable components such as batteries, cables, igniters (as well as various accessories required for air-launched torpedoes), must be replaced. These items as well as components such as exercise heads, fuel tanks, and exhaust valves which may be used more than once, but which are worn out or lost in service, are procured each fiscal year in quantities dependent upon the fleet training requirements and tempo of operations. The torpedoes requiring support are the MK46 Mod 5A(S), MK46 Mod 5A(SW), MK50, MK48 Mod 4, 5, and 6 and their associated Support and Test Equipment (S&TE). In addition to components procurement, this account provides for production support and test/evaluation for these components and procurement of product improvement hardware and related equipment.

P-1 SHOPPING LIST

CLASSIFICATION:

**UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

WEAPONS SYSTEM COST ANALYSIS P-5							Weapon System			DATE: February 1999		
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo and Related Equipment						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAC Torpedo Support Equipment/C3F8					
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS									
			FY 1998			FY 1999			FY 2000			
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	
	PEO (UNDERSEA WARFARE)											
	Lightweight Support Equipment				\$4,152			\$6,047			\$6,319	
	MK48/ADCAP Support Equipment				\$20,054			\$18,032			\$17,031	
	Torpedo Support Equipment				\$24,206			\$24,079			\$23,350	
<b>TOTAL</b>												

WEAPONS SYSTEM COST ANALYSIS							Weapon System			DATE:	
P-5							Lightweight Torpedo			February 1999	
APPROPRIATION/BUDGET ACTIVITY						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD				
Weapons Procurement, Navy/Torpedo and Related Equipmen							Torpedo Support Equipment/C3F8				
COST CODE	ELEMENT OF COST	IDENT CODE	TOTAL COST IN THOUSANDS OF DOLLARS								
			FY 1998			FY 1999			FY 2000		
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
F8001	Lightweight Support Equipment										
	MK46 Lead Dropper		0	\$0.358	\$0	800	\$0.366	\$293	460	\$0.374	\$172
	MK46 Mod 5 Seawater Battery		0	\$0.286	\$0	142	\$0.292	\$42	142	\$0.299	\$42
	MK46 Pressure Cylinder (Short)		1716	\$0.256	\$439	0	\$0.262	\$0	427	\$0.267	\$114
	MK46 REXTORP Kits		0	\$0.511	\$0	0	\$0.521	\$0	0	\$0.532	\$0
	MK46/50 Sway Brace Pads		0	\$0.000	\$0	0	\$0.100	\$0	1000	\$0.102	\$102
	MK89 Mod 1 Suspension Bands		500	\$0.430	\$215	500	\$0.448	\$224	600	\$0.458	\$275
	MK50 Boiler Assembly		0	\$0.000	\$0	0	\$0.000	\$0	0	\$0.000	\$0
	MK50 MEL Boiler Assembly		0	\$19.800	\$0	0	\$20.236	\$0	0	\$20.681	\$0
	MK50 Oxidant Stop Squib		0	\$0.000	\$0	0	\$0.000	\$0	0	\$0.000	\$0
	MK50 Oxidant Shutdown Valve		0	\$0.000	\$0	0	\$0.000	\$0	0	\$0.000	\$0
	MK50 Gas Injection Assembly		0	\$0.878	\$0	30	\$0.898	\$27	30	\$0.917	\$28
	MK50 Tailnut		0	\$0.000	\$0	0	\$0.000	\$0	0	\$0.000	\$0
	MK50 MK 33 Air Stabilizer		200	\$1.123	\$225	600	\$1.148	\$689	235	\$1.173	\$276
	MK50 MK 32 Air Stabilizer		0	\$1.842	\$0	450	\$1.883	\$847	500	\$1.924	\$962
	MK46 MK 31 Air Stabilizer		1000	\$0.644	\$644	260	\$0.658	\$171	360	\$0.673	\$242
	MK46 MK 28 Air Stabilizer		0	\$0.899	\$0	0	\$0.919	\$0	0	\$0.939	\$0
	MK50 SAFT Thermal Battery		0	\$1.500	\$0	30	\$1.533	\$46	120	\$1.567	\$188
	Sub-Total				\$1,523			\$2,338			\$2,401
F8002	Other Equipment Investment										
	Product Improvement Hardware				\$0			\$170			\$167
	ORDALT Procurement				\$0			\$741			\$907
	FES Replacement/Improvement				\$1,256			\$0			\$0
	Test Equipment Upgrade				\$100			\$1,355			\$1,447
	Sub-Total				\$1,356			\$2,266			\$2,521
F8830	Production Engineering - In House				\$743			\$923			\$897
F8840	Quality Assurance				\$158			\$188			\$186
F8850	Product Improvement				\$0			\$0			\$0
F8860	Acceptance T & E				\$175			\$160			\$145
F8900	Production Engineering - Contractor				\$197			\$172			\$169
<b>TOTAL</b>					<b>\$4,152</b>			<b>\$6,047</b>			<b>\$6,319</b>

CLASSIFICATION:

**UNCLASSIFIED**

WEAPONS SYSTEM COST ANALYSIS P-5						Weapon System Heavyweight Torpedo			DATE: February 1999			
APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo and Related Equipment						ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD Torpedo Support Equipment/C3F8					
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS									
			FY 1998			FY 1999			FY 2000			
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	
F8100	EXERCISE EXPENDABLES AND COMPONENT REPLACEMENT											
	TORPEDO WIRE COIL		500	\$2.500	\$1,250	350	\$2.553	\$893	500	\$2.606	\$1,303	
	SUBMARINE WIRE COIL		0	\$2.044	\$0	400	\$2.087	\$835	1,000	\$2.131	\$2,131	
	FLEX HOSE (IMPROVED)		500	\$1.700	\$850	400	\$1.736	\$694	800	\$1.772	\$1,418	
	OTTO FUEL (1,000 lbs per unit)		285	\$6.880	\$1,961	295	\$7.031	\$2,074	300	\$7.186	\$2,156	
	IGNITER		0	\$0.139	\$0	1,000	\$0.141	\$141	1,000	\$0.145	\$145	
	PROPELLANT		1,500	\$0.565	\$848	500	\$0.577	\$288	1,000	\$0.589	\$589	
	UMBILICAL CABLE (IMPROVED)		410	\$5.988	\$2,455	400	\$6.120	\$2,448	200	\$6.254	\$1,251	
	SUBTOTAL				\$7,363			\$7,374			\$8,992	
F8101	OTHER EQUIPMENT INVESTMENT											
	PRODUCT IMPROVEMENT HARDWARE				\$2,409			\$2,184			\$1,889	
	FUEL TANK SUPPORT				\$1,307			\$1,128			\$1,060	
	ORDALT PROCUREMENT				\$4,217			\$3,222			\$2,557	
	TIES III EXERCISE SECTION UPGRADE				\$450			\$407			\$0	
	FES REPLACEMENT/IMPROVEMENT				\$1,200			\$979			\$421	
	TEST EQUIPMENT UPGRADE				\$808			\$725			\$516	
	SUBTOTAL				\$10,391			\$8,645			\$6,443	
	PRODUCTION SUPPORT											
F8833	PRODUCTION ENGINEERING (IN-HOUSE)				\$505			\$486			\$413	
F8843	QUALITY ASSURANCE				\$1,313			\$1,119			\$893	
F8863	ACCEPTANCE TEST & EVALUATION				\$482			\$408			\$290	
<b>TOTAL</b>					<b>\$20,054</b>			<b>\$18,032</b>			<b>\$17,031</b>	

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5/					Weapon System Lightweight Torpedo		A. DATE February 1999			
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo Support Equipment					C. P-1 ITEM NOMENCLATURE Torpedo Support Equipment				SUBHEAD C3F8	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE
<b>FY1998</b>										
MK46 Pressure Cylinder (Short)	1716	0.256	NUWC, Keyport		RC/FFP	Catridge Activated Devices, Fairfiled, NJ	9/98	7/00	Yes	
MK89 Mod 1 Suspension Banc	500	\$0.430	NUWC, Keyport		RC/FFP	Unknown	9/98	7/00	Yes	
MK50 MK33 Air Stabilizer	200	1.123	NUWC, Keyport		RC/FFP	Guardian Parachute, Santa Ana, CA	9/98	7/00	Yes	
MK46 MK31 Air Stabilizer	1000	0.644	NUWC, Keyport		RC/FFP	United Terex, Inc., Fairview Village, PA	9/98	7/00	Yes	
<b>FY1999</b>										
MK46 Lead Dropper	800	\$0.366	NUWC, Keyport		RC/FFP	Melstrom, Farmingdale, NJ	3/99	3/01	Yes	
MK46 Seawater Battery	142	\$0.292	NUWC, Keyport		RC/FFP	Magnavolt, Clayton, NC	3/99	3/01	Yes	
MK89 Mod 1 Suspension Banc	500	\$0.448	NUWC, Keyport		RC/FFP	Unknown	3/99	3/01	Yes	
MK50 Gas Injection Assembly	30	\$0.898	NUWC, Keyport		RC/FFP	Unknown	3/99	3/01	Yes	
MK50 MK33 Air Stabilizer	600	\$1.148	NUWC, Keyport		RC/FFP	Guardian Parachute, Santa Ana, CA	3/99	3/01	Yes	
MK50 MK32 Air Stabilizer	450	\$1.883	NUWC, Keyport		RC/FFP	Unknown	3/99	3/01	Yes	
MK46 MK31 Air Stabilizer	260	\$0.658	NUWC, Keyport		RC/FFP	United Terex, Inc., Fairview Village, PA	3/99	3/01	Yes	
MK50 SAFT Thermal Battery	30	\$1.533	NUWC, Keyport		RC/FFP	Unknown	3/99	3/01	Yes	
<b>FY2000</b>										
MK46 Lead Dropper	460	\$0.374	NUWC, Keyport		RC/FFP	Melstrom, Farmingdale, NJ	3/00	3/02	Yes	
MK46 Seawater Battery	142	\$0.299	NUWC, Keyport		RC/FFP	Magnavolt, Clayton, NC	3/00	3/02	Yes	
MK46 Pressure Cylinder (Short)	427	\$0.267	NUWC, Keyport		RC/FFP	Catridge Activated Devices, Fairfiled, NJ	3/00	3/02	Yes	
MK46/50 Sway Brace Pads	1000	\$0.102	NUWC, Keyport		RC/FFP	Unknown	3/00	3/02	Yes	
MK89 Mod 1 Suspension Banc	600	\$0.458	NUWC, Keyport		RC/FFP	Unknown	3/00	3/02	Yes	
MK50 Gas Injection Assembly	30	\$0.917	NUWC, Keyport		RC/FFP	Unknown	3/00	3/02	Yes	
MK50 MK33 Air Stabilizer	235	\$1.173	NUWC, Keyport		RC/FFP	Guardian Parachute, Santa Ana, CA	3/00	3/02	Yes	
MK50 MK32 Air Stabilizer	500	\$1.924	NUWC, Keyport		RC/FFP	Unknown	3/00	3/02	Yes	
MK46 MK31 Air Stabilizer	360	\$0.673	NUWC, Keyport		RC/FFP	United Terex, Inc., Fairview Village, PA	3/00	3/02	Yes	
MK50 SAFT Thermal Battery	120	\$1.567	NUWC, Keyport		RC/FFP	Unknown	3/00	3/02	Yes	
D. REMARKS										

# UNCLASSIFIED

CLASSIFICATION:

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System Heavyweight Torpedo		A. DATE February 1999			
B. APPROPRIATION/BUDGET ACTIVITY Weapons Procurement, Navy/Torpedo Support Equipment					C. P-1 ITEM NOMENCLATURE Torpedo Support Equipment				SUBHEAD C3F8	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	IF YES WHEN AVAILABLE
<b>FY1998</b>										
Torpedo Wire Coil	500	\$2.500	NUWC, Keyport		RC/FFP	Entwhistle, Hudson, MA	9/98	9/00	Yes	
Flex Hose (Improved)	500	\$1.700	NUWC, Newport		RC/FFP	JDR Cable, UK	6/98	8/00	Yes	
Otto Fuel	285	\$6.880	NSWC Indian Head		WR	NSWC Indian Head, MD	1/98	7/99	Yes	
Propellant	1500	\$0.565	NUWC, Keyport		RC/FFP	Thiokol, Elton MD	9/98	8/00	Yes	
Umbilical Cables (Improved)	410	\$5.988	NUWC, Newport		RC/FFP	SeaCon, Westerly RI	6/98	5/00	Yes	
<b>FY 1999</b>										
Torpedo Wire Coil	350	\$2.553	NUWC, Keyport		RC/FFP	Entwhistle, Hudson, MA	6/99	7/01	Yes	
Sub Wire Coil	400	\$2.087	NUWC, Keyport		RC/FFP	Unknown	6/99	7/01	Yes	
Flex Hose (Improved)	400	\$1.736	NUWC, Newport		RC/FFP	Unknown	6/99	8/01	Yes	
Otto Fuel	295	\$7.031	NSWC Indian Head		WR	NSWC Indian Head, MD	1/99	7/00	Yes	
Igniter	1000	\$0.141	NUWC, Keyport		RC/FFP	Unknown	6/99	8/01	Yes	
Propellant	500	\$0.577	NUWC, Keyport		RC/FFP	Thiokol, Elton MD	6/99	8/01	Yes	
Umbilical Cables (Improved)	400	\$6.120	NUWC, Newport		RC/FFP	Unknown	6/99	5/01	Yes	
<b>FY 2000</b>										
Torpedo Wire Coil	500	\$2.606	NUWC, Keyport		RC/FFP	Entwhistle, Hudson, MA	6/00	7/02	Yes	
Sub Wire Coil	1000	\$2.131	NUWC, Keyport		RC/FFP	Unknown	6/00	7/02	Yes	
Flex Hose (Improved)	800	\$1.772	NUWC, Newport		RC/FFP	Unknown	6/00	8/02	Yes	
Otto Fuel	300	\$7.186	NSWC Indian Head		WR	NSWC Indian Head, MD	1/00	7/01	Yes	
Igniter	1000	\$0.145	NUWC, Keyport		RC/FFP	Unknown	6/00	8/02	Yes	
Propellant	1000	\$0.589	NUWC, Keyport		RC/FFP	Thiokol, Elton MD	6/00	8/02	Yes	
Umbilical Cables (Improved)	200	\$6.254	NUWC, Newport		RC/FFP	Unknown	6/00	5/02	Yes	
D. REMARKS:										

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK46 Lead Droppers</b>		NALC TW32	CY	BY1	BY2		
			FY 1998	FY 1999	FY 2000		
Buy Summary QTY			0	800	460		
Unit Cost			\$0.358	\$0.366	\$0.374		
Total Cost			\$0	\$293	\$172		
<b>Asset Dynamics</b>							
Beginning Asset Position			593	1604	1151		
SE deliveries from all prior year funding			228	0	0		
Spares deliveries from all prior year funding			1,214	0	0		
Deliveries from FY 1997 funding			0	0	0		
Deliveries from FY 1998 funding			0	0	0		
Deliveries from FY 1999 funding			0	0	0		
Deliveries from FY 2000 funding			0	0	0		
Deliveries from FY 2001 funding			0	0	0		
Deliveries from FY 2002 funding			0	0	0		
Deliveries from FY 2003 funding			0	0	0		
Combat Losses/Usage			0	0	0		
Training Losses/Usage			431	453	462		
Test Losses/Usage			0	0	0		
Other Losses/Usage			0	0	0		
Disposals/Retirements/Attritions/etc.			0	0	0		
<b>End of Year Asset Position</b>			1604	1151	689		
Inventory Objective/Current Authorized Allowance			1346	915	462		
Example:							
Inventory Objective		Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)		
	PY thru		PY thru		PY thru		
	FY97:	648	FY97:	0	FY97:	0	
	FY96:	646	FY96:	0	FY96:	0	
	FY95:	409	FY95:	0	FY95:	0	
	FY94:	490	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each MK46 EXTORP firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. FY96/97 Reflect higher exercise tempo. FY98-FY05 items expended during MK46 EXTORP (tube, fixed wing, rotary wing, VLA) firings only.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>				Admin Leadtime (after Oct 1): 7 months		Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/Mk46 Seawater Battery</b>		NALC TU44	CY	BY1	BY2		
		FY 1998	FY 1999	FY 2000			
Buy Summary QTY		0	142	142			
Unit Cost		\$0.286	\$0.292	\$0.299			
Total Cost		\$0	\$42	\$42			
<b>Asset Dynamics</b>							
Beginning Asset Position		342	1151	1018			
Deliveries from all prior year funding		460	0	0			
Spares deliveries from all prior year funding		460	0	782			
Recycled from Maintenance Actions		320	320	320			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		431	453	462			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		1151	1018	1658			
Inventory Objective/Current Authorized Allowance		1346	915	462			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	PY thru		PY thru		PY thru		
	FY97:	400	FY97:	0	FY97:	0	
	FY96:	360	FY96:	0	FY96:	0	
	FY95:	380	FY95:	0	FY95:	0	
	FY94:	490	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. MK46 Seawater Battery expended during EXTORP (tube, fixed wing, rotary wing, VLA) firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Mk46 Pressure Cylinder (Short)</b>		NALC TW58	CY	BY1	BY2		
		FY 1998	FY 1999	FY 2000			
Buy Summary QTY		1,716	0	427			
Unit Cost		\$0.256	\$0.262	\$0.267			
Total Cost		\$439	\$0	\$114			
<b>Asset Dynamics</b>							
Beginning Asset Position		1513	1082	629			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	1,716			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		431	453	462			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		1082	629	1883			
Inventory Objective/Current Authorized Allowance		1346	915	462			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		400		FY97:		0	
FY96:		360		FY96:		0	
FY95:		727		FY95:		0	
FY94:		781		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. MK46 Pressure Cylinder (Short) expended during EXTORP (tube, fixed wing, rotary wing, VLA) firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK46 REXTORP Kit</b>		NALC 5W48	CY FY 1998	BY1 FY 1999	BY2 FY 2000		
Buy Summary QTY			0	0	0		
Unit Cost			\$0.511	\$0.521	\$0.532		
Total Cost			\$0	\$0	\$0		
<b>Asset Dynamics</b>							
Beginning Asset Position			2283	2036	1789		
Deliveries from all prior year funding			0	0	0		
Spares deliveries from all prior year funding			0	0	0		
Deliveries from FY 1997 funding			0	0	0		
Deliveries from FY 1998 funding			0	0	0		
Deliveries from FY 1999 funding			0	0	0		
Deliveries from FY 2000 funding			0	0	0		
Deliveries from FY 2001 funding			0	0	0		
Deliveries from FY 2002 funding			0	0	0		
Deliveries from FY 2003 funding			0	0	0		
Combat Losses/Usage			0	0	0		
Training Losses/Usage			247	247	247		
Test Losses/Usage			0	0	0		
Other Losses/Usage			0	0	0		
Disposals/Retirements/Attritions/etc.			0	0	0		
<b>End of Year Asset Position</b>			2036	1789	1542		
Inventory Objective/Current Authorized Allowance			741	494	247		
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		634		FY97:		0	
FY96:		423		FY96:		0	
FY95:		1020		FY95:		0	
FY94:		1020		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. MK46 REXTORP Kit expended during tube, fixed wing, and rotary wing firings FY96-97; expended only during fixed wing firings FY98-03. Authorization received to launch in an unballasted configuration for tube and helo launch.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK46 and MK50 Sway Brace Pads</b>		NALC CWCF CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	1,000			
Unit Cost			\$0.100	\$0.102			
Total Cost		\$0	\$0	\$102			
<b>Asset Dynamics</b>							
Beginning Asset Position		0	3707	3099			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		4,315	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		608	608	608			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		3707	3099	2491			
Inventory Objective/Current Authorized Allowance		4624	4016	3408			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	PY thru		PY thru		PY thru		
	FY97:	939	FY97:	0	FY97:	0	
	FY96:	1033	FY96:	0	FY96:	0	
	FY95:	917	FY95:	0	FY95:	0	
	FY94:	1010	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Substitute will be used through completion. Sway Brace Pad expended during MK46 and MK50 EXTORP and REXTORP firings (fixed wing and rotary). Inventory objective reflects training losses (three years) in addition to 2800 warshots.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>				Admin Leadtime (after Oct 1): 7 months		Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK89 Mod 1 Suspension Bands</b>		NALC T107 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		500	500	600			
Unit Cost		\$0.430	\$0.448	\$0.458			
Total Cost		\$215	\$224	\$275			
<b>Asset Dynamics</b>							
Beginning Asset Position		5445	4837	4229			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	500			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		608	608	608			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		4837	4229	4121			
Inventory Objective/Current Authorized Allowance		4624	4016	3408			
Example:							
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)				
	PY thru FY97:	PY thru FY97:	PY thru FY97:				
	218	0	0				
	FY96:	FY96:	FY96:				
	214	0	0				
	FY95:	FY95:	FY95:				
	114	0	0				
	FY94:	FY94:	FY94:				
	8	0	0				
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Suspension bands expend MK46/MK50 Warshot, EXTORP (rotary and fixed wing), and REXTORP (rotary and fixed wing) firings. FY94-97 expended old bands for MK50 firings only; FY98-05 expenditures reflect use of Mod 1 bands for all MK46 and MK50 firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>				Admin Leadtime (after Oct 1): 7 months		Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/Mk50 SAFT Thermal Battery</b>		NALC <i>new</i> CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	30	120			
Unit Cost		\$1.500	\$1.533	\$1.567			
Total Cost		\$0	\$46	\$188			
<b>Asset Dynamics</b>							
Beginning Asset Position		0	0	0			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		0	0	0			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		0	0	0			
Inventory Objective/Current Authorized Allowance		0	0	0			
Example:							
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)				
	PY thru FY97:	PY thru FY97:	PY thru FY97:	0			
	FY96:	FY96:	FY96:	0			
	FY95:	FY95:	FY95:	0			
	FY94:	FY94:	FY94:	0			
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Item expended after each firing. Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Thermal batteries expend MK50 EXTORP (tube, rotary, and fixed wing) firings. Pre-installed batteries expended FY98-FY00. New (replacement) SAFT thermal battery expended FY01-FY05.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 Boiler Assembly</b>		NALC 5W16 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	0			
Unit Cost							
Total Cost		\$0	\$0	\$0			
<b>Asset Dynamics</b>							
Beginning Asset Position		596	596	0			
Deliveries from all prior year funding		105	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		0	0	0			
Test Losses/Usage		0	0	0			
Other Losses/Usage		105	0	0			
Disposals/Retirements/Attritions/etc.		0	596	0			
<b>End of Year Asset Position</b>		596	0	0			
Inventory Objective/Current Authorized Allowance		90	0	0			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage	Disposals (Vehicles/Other)		
	PY thru		PY thru		PY thru		
	FY97:	0	FY97:	28	FY97:	0	
	FY96:	0	FY96:	34	FY96:	0	
	FY95:	0	FY95:	0	FY95:	0	
	FY94:	0	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> FY99-05 expenditures reflect discontinued item; replaced with MEL Boiler Assembly FY99.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 MEL Boiler Assembly</b>		NALC XXXX CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	0			
Unit Cost		\$19.800	\$20.236	\$20.681			
Total Cost		\$0	\$0	\$0			
<b>Asset Dynamics</b>							
Beginning Asset Position		0	30	130			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		30	100	80			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		0	0	0			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		30	130	210			
Inventory Objective/Current Authorized Allowance		0	0	0			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		FY97:		FY97:		0	
FY96:		FY96:		FY96:		0	
FY95:		FY95:		FY95:		0	
FY94:		FY94:		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 Oxidant Stop Squib</b>		NALC 5W12 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	0			
Unit Cost							
Total Cost		\$0	\$0	\$0			
<b>Asset Dynamics</b>							
Beginning Asset Position		320	333	303			
Deliveries from all prior year funding		43	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		30	30	30			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		333	303	273			
Inventory Objective/Current Authorized Allowance		90	60	30			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		23		FY97:		0	
FY96:		36		FY96:		0	
FY95:		0		FY95:		0	
FY94:		0		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Squib expended during MK50 EXTORP (tube, rotary, and fixed wing) firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 Oxidant Shutdown Valve</b>		NALC 5W27 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	0			
Unit Cost							
Total Cost		\$0	\$0	\$0			
<b>Asset Dynamics</b>							
Beginning Asset Position		651	665	635			
Deliveries from all prior year funding		44	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		30	30	30			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		665	635	605			
Inventory Objective/Current Authorized Allowance		90	60	30			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	PY thru		PY thru		PY thru		
	FY97:	23	FY97:	0	FY97:	0	
	FY96:	36	FY96:	0	FY96:	0	
	FY95:	0	FY95:	0	FY95:	0	
	FY94:	0	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Shutdown valve expended during MK50 EXTORP (tube, rotary, and fixed wing) firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 Gas Injection Assembly</b>		CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY NALC 5W24		0	30	30			
Unit Cost		\$0.878	\$0.898	\$0.917			
Total Cost		\$0	\$27	\$28			
<b>Asset Dynamics</b>							
Beginning Asset Position		123	150	120			
Deliveries from all prior year funding		57	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		30	30	30			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		150	120	90			
Inventory Objective/Current Authorized Allowance		90	60	30			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	PY thru		PY thru		PY thru		
	FY97:	23	FY97:	0	FY97:	0	
	FY96:	36	FY96:	0	FY96:	0	
	FY95:	0	FY95:	0	FY95:	0	
	FY94:	0	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflects Sponsor-directed Non-Combat Expenditure Allocation (NCEA) firings. Gas injection assembly expended during MK50 EXTORP (tube, rotary, and fixed wing) firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>				Admin Leadtime (after Oct 1): 7 months		Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 Tailnut</b>		NALC 5W26 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	0			
Unit Cost							
Total Cost		\$0	\$0	\$0			
<b>Asset Dynamics</b>							
Beginning Asset Position		150	489	486			
Deliveries from all prior year funding		343	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		4	3	3			
Test Losses/Usage		0	0	0			
Other Losses/Usage		1	1	1			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		489	486	482			
Inventory Objective/Current Authorized Allowance		350	350	350			
Example:							
Inventory Objective	Actual Training Expenditures	Other than Training Usage		Disposals (Vehicles/Other)			
	PY thru		PY thru	PY thru			
	FY97:	4	FY97:	1	FY97:	0	
	FY96:	4	FY96:	1	FY96:	0	
	FY95:	0	FY95:	0	FY95:	0	
	FY94:	0	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training and Other Losses/Usage: MK50 Tailnut expended during Warshot tube launch for Special Firings. Inventory Objective adjusted to reflect MK50 inventory.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 MK33 Air Stabilizer</b>		NALC 5W14 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		200	600	235			
Unit Cost		\$1.123	\$1.148	\$1.173			
Total Cost		\$225	\$689	\$276			
<b>Asset Dynamics</b>							
Beginning Asset Position		504	336	268			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		0	100	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	200			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		168	168	168			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		336	268	300			
Inventory Objective/Current Authorized Allowance		804	636	468			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		76		FY97:		0	
FY96:		129		FY96:		0	
FY95:		100		FY95:		0	
FY94:		3		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> MK33 Air Stabilizer expended during MK50 EXTORP rotary wing special firings and REXTORP rotary wing firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK50 MK32 Air Stabilizer</b>		NALC CWDN CY	BY1 FY 1998	BY2 FY 1999	BY2 FY 2000		
Buy Summary QTY		0	450	500			
Unit Cost		\$1.842	\$1.883	\$1.924			
Total Cost		\$0	\$847	\$962			
<b>Asset Dynamics</b>							
Beginning Asset Position		331	504	295			
Deliveries from all prior year funding		374	0	0			
Spares deliveries from all prior year funding		0	0	100			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		201	209	209			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		504	295	186			
Inventory Objective/Current Authorized Allowance		919	718	509			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		142		FY97:		0	
FY96:		85		FY96:		0	
FY95:		14		FY95:		0	
FY94:		5		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> MK32 Air Stabilizer expended during MK50 EXTORP fixed wing special firings and REXTORP fixed wing firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK46 MK31 Air Stabilizer</b>		NALC QW47	CY	BY1	BY2		
		FY 1998	FY 1999	FY 2000			
Buy Summary QTY		1,000	260	360			
Unit Cost		\$0.644	\$0.658	\$0.673			
Total Cost		\$644	\$171	\$242			
<b>Asset Dynamics</b>							
Beginning Asset Position		2175	2515	2255			
Deliveries from all prior year funding		600	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	1,000			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		260	260	260			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		2515	2255	2995			
Inventory Objective/Current Authorized Allowance		3280	3020	2760			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
PY thru		PY thru		PY thru			
FY97:		492		FY97:		0	
FY96:		479		FY96:		0	
FY95:		381		FY95:		0	
FY94:		567		FY94:		0	
<b>TOTAL:</b>							
<b>REMARKS:</b> MK31 Air Stabilizer expended during MK46 EXTORP rotary special firings and REXTORP rotary firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Lightweight Torpedo Support Equipment LI # 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8001/MK46 MK28 Air Stabilizer</b>		NALC TA68 CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		0	0	0			
Unit Cost		\$0.899	\$0.919	\$0.939			
Total Cost		\$0	\$0	\$0			
<b>Asset Dynamics</b>							
Beginning Asset Position		5266	5006	4746			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	0	0			
Deliveries from FY 1998 funding		0	0	0			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		260	260	260			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		5006	4746	4486			
Inventory Objective/Current Authorized Allowance		3280	3020	2760			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	PY thru		PY thru		PY thru		
	FY97:	229	FY97:	0	FY97:	0	
	FY96:	340	FY96:	0	FY96:	0	
	FY95:	422	FY95:	0	FY95:	0	
	FY94:	435	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> MK28 Air Stabilizer expended during MK46 EXTORP fixed wing special firings and REXTORP fixed wing firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Torpedo Wire Coil</b>		NALC 5W83	CY	BY1	BY2		
			FY 1998	FY 1999	FY 2000		
Buy Summary QTY			500	350	500		
Unit Cost			\$2.500	\$2.553	\$2.606		
Total Cost			\$1,250	\$893	\$1,303		
<b>Asset Dynamics</b>							
Beginning Asset Position			3973	3010	2162		
Deliveries from all prior year funding			0	0	0		
Spares deliveries from all prior year funding			0	0	0		
Deliveries from FY 1997 funding			0	0	0		
Deliveries from FY 1998 funding			0	0	500		
Deliveries from FY 1999 funding			0	0	0		
Deliveries from FY 2000 funding			0	0	0		
Deliveries from FY 2001 funding			0	0	0		
Deliveries from FY 2002 funding			0	0	0		
Deliveries from FY 2003 funding			0	0	0		
Combat Losses/Usage			0	0	0		
Training Losses/Usage			963	848	787		
Test Losses/Usage			0	0	0		
Other Losses/Usage			0	0	0		
Disposals/Retirements/Attritions/etc.			0	0	0		
<b>End of Year Asset Position</b>			3010	2162	1875		
Inventory Objective/Current Authorized Allowance			2598	1635	787		
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	FY97:	923	FY97:	0	FY97:	0	
	FY96:	823	FY96:	0	FY96:	0	
	FY95:	849	FY95:	0	FY95:	0	
	FY94:	916	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflect Sponsor-directed firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Submarine Wire Coil</b>		NALC TW92	CY	BY1	BY2		
			FY 1998	FY 1999	FY 2000		
Buy Summary QTY			0	400	1,000		
Unit Cost			\$2.044	\$2.087	\$2.131		
Total Cost			\$0	\$835	\$2,131		
<b>Asset Dynamics</b>							
Beginning Asset Position			2811	1905	1588		
Deliveries from all prior year funding			0	0	0		
Spares deliveries from all prior year funding			0	0	0		
Deliveries from FY 1997 funding			0	500	0		
Deliveries from FY 1998 funding			0	0	0		
Deliveries from FY 1999 funding			0	0	0		
Deliveries from FY 2000 funding			0	0	0		
Deliveries from FY 2001 funding			0	0	0		
Deliveries from FY 2002 funding			0	0	0		
Deliveries from FY 2003 funding			0	0	0		
Combat Losses/Usage			0	0	0		
Training Losses/Usage			906	817	761		
Test Losses/Usage			0	0	0		
Other Losses/Usage			0	0	0		
Disposals/Retirements/Attritions/etc.			0	0	0		
<b>End of Year Asset Position</b>			1905	1588	827		
Inventory Objective/Current Authorized Allowance			2484	1578	761		
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	FY97:	787	FY97:	0	FY97:		
	FY96:	823	FY96:	0	FY96:	0	
	FY95:	849	FY95:	0	FY95:	0	
	FY94:	916	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflect Sponsor-directed firings.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>				Admin Leadtime (after Oct 1): 7 months		Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Flex Hose (Improved)</b>		NALC CWCN CY FY 1998	BY1 FY 1999	BY2 FY 2000			
Buy Summary QTY		500	400	800			
Unit Cost		\$1.700	\$1.736	\$1.772			
Total Cost		\$850	\$694	\$1,418			
<b>Asset Dynamics</b>							
Beginning Asset Position		1684	948	780			
Deliveries from all prior year funding		0	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	515	0			
Deliveries from FY 1998 funding		0	0	500			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		736	683	642			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		948	780	638			
Inventory Objective/Current Authorized Allowance		2061	1325	642			
Example:							
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)				
	FY97: 432	FY97: 0	FY97: 0				
	FY96: 823	FY96: 0	FY96: 0				
	FY95: 849	FY95: 0	FY95: 0				
	FY94: 916	FY94: 0	FY94: 0				
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflect Sponsor-directed firings for Improved Flex Hose. FY94-FY96 usage reflects Standard Flex Hose firings; FY97-FY05 Training Losses/Usage reflects Improved Flex Hose firings only.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>			Admin Leadtime (after Oct 1): 3 months			Prod Leadtime: 9 months	
Project Unit/Item <b>F8100/Otto Fuel II</b>		NALC TA32	CY	BY1	BY2		
		FY 1998	FY 1999	FY 2000			
Buy Summary QTY (1,000 lbs. Per Unit)		285	295	300			
Unit Cost		\$6.880	\$7.031	\$7.186			
Total Cost		\$1,961	\$2,074	\$2,156			
<b>Asset Dynamics</b>							
Beginning Asset Position		450	441	525			
Deliveries from Other Sources (Reclamation)		225	223	222			
Deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		238	0	0			
Deliveries from FY 1998 funding		0	285	0			
Deliveries from FY 1999 funding		0	0	295			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Deliveries from FY 2004 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		472	424	395			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		441	525	647			
Inventory Objective/Current Authorized Allowance		896	819	395			
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	FY97:	421	FY97:		FY97:		
	FY96:	495	FY96:	0	FY96:	0	
	FY95:	440	FY95:	0	FY95:	0	
	FY94:	410	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflect Sponsor-directed firings. Deliveries from Other Sources: Adjusted to reflect reclaimed Otto fuel. FY01 decrease in reclamation due to the completion of Deep Stow.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Igniter</b>		NALC T688	CY	BY1	BY2		
			FY 1998	FY 1999	FY 2000		
Buy Summary QTY			0	1,000	1,000		
Unit Cost			\$0.139	\$0.141	\$0.145		
Total Cost			\$0	\$141	\$145		
<b>Asset Dynamics</b>							
Beginning Asset Position			2912	1949	1101		
Deliveries from all prior year funding			0	0	0		
Spares deliveries from all prior year funding			0	0	0		
Deliveries from FY 1997 funding			0	0	0		
Deliveries from FY 1998 funding			0	0	0		
Deliveries from FY 1999 funding			0	0	0		
Deliveries from FY 2000 funding			0	0	0		
Deliveries from FY 2001 funding			0	0	0		
Deliveries from FY 2002 funding			0	0	0		
Deliveries from FY 2003 funding			0	0	0		
Combat Losses/Usage			0	0	0		
Training Losses/Usage			963	848	787		
Test Losses/Usage			0	0	0		
Other Losses/Usage			0	0	0		
Disposals/Retirements/Attritions/etc.			0	0	0		
<b>End of Year Asset Position</b>			1949	1101	314		
Inventory Objective/Current Authorized Allowance			2598	1635	787		
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	FY97:	923	FY97:	0	FY97:	0	
	FY96:	823	FY96:	0	FY96:	0	
	FY95:	849	FY95:	0	FY95:	0	
	FY94:	916	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflect Sponsor-directed firings. End Year Inventories do not include shelved Chamber and Valves (C&V) that have Igniter pre-installed.							

P-1 Shopping List Item No 28

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Propellant</b>		NALC CWFD	CY	BY1	BY2		
			FY 1998	FY 1999	FY 2000		
Buy Summary QTY			1,500	500	1,000		
Unit Cost			\$0.565	\$0.577	\$0.589		
Total Cost			\$848	\$288	\$589		
<b>Asset Dynamics</b>							
Beginning Asset Position			670	873	159		
Deliveries from all prior year funding			1,000	0	0		
Spares deliveries from all prior year funding			0	0	0		
Deliveries from FY 1997 funding			0	0	0		
Deliveries from FY 1998 funding			0	0	1,500		
Deliveries from FY 1999 funding			0	0	0		
Deliveries from FY 2000 funding			0	0	0		
Deliveries from FY 2001 funding			0	0	0		
Deliveries from FY 2002 funding			0	0	0		
Deliveries from FY 2003 funding			0	0	0		
Combat Losses/Usage			0	0	0		
Training Losses/Usage			797	714	668		
Test Losses/Usage			0	0	0		
Other Losses/Usage			0	0	0		
Disposals/Retirements/Attritions/etc.			0	0	0		
<b>End of Year Asset Position</b>			873	159	991		
Inventory Objective/Current Authorized Allowance			2179	1382	668		
Example:							
Inventory Objective		Actual Training Expenditures		Other than Training Usage		Disposals (Vehicles/Other)	
	FY97:	270	FY97:	0	FY97:	0	
	FY96:	823	FY96:	0	FY96:	0	
	FY95:	849	FY95:	0	FY95:	0	
	FY94:	916	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b> Training Losses/Usage: Reflect Sponsor-directed firings; new item introduced to Fleet FY97. FY94-FY96 expenditures reflect Short Grain Propellant firings; FY97-FY05 usage reflects Long Grain firings only.							

Exhibit P-20, Requirements Study		Approp Code/BA 1507/		Subhead C3F8		Date: <b>February 1999</b>	
P-1 Line Item Nomenclature <b>Heavyweight Torpedo Support Equipment LI# 330100</b>			Admin Leadtime (after Oct 1): 7 months			Prod Leadtime: 17 months	
Project Unit/Item <b>F8100/Umbilical Cables (Improved)</b>		NALC CWFP CY	BY1 FY 1998	BY2 FY 1999	BY2 FY 2000		
Buy Summary QTY		410	400	200			
Unit Cost		\$5.988	\$6.120	\$6.254			
Total Cost		\$2,455	\$2,448	\$1,251			
<b>Asset Dynamics</b>							
Beginning Asset Position		1227	1441	1634			
Deliveries from all prior year funding		362	0	0			
Spares deliveries from all prior year funding		0	0	0			
Deliveries from FY 1997 funding		0	330	0			
Deliveries from FY 1998 funding		0	0	410			
Deliveries from FY 1999 funding		0	0	0			
Deliveries from FY 2000 funding		0	0	0			
Deliveries from FY 2001 funding		0	0	0			
Deliveries from FY 2002 funding		0	0	0			
Deliveries from FY 2003 funding		0	0	0			
Combat Losses/Usage		0	0	0			
Training Losses/Usage		148	137	129			
Test Losses/Usage		0	0	0			
Other Losses/Usage		0	0	0			
Disposals/Retirements/Attritions/etc.		0	0	0			
<b>End of Year Asset Position</b>		1441	1634	1915			
Inventory Objective/Current Authorized Allowance		2369	2369	2369			
Example:							
Inventory Objective	Actual Training Expenditures	Other than Training Usage	Disposals (Vehicles/Other)				
	FY97:	39	FY97:	0	FY97:	0	
	FY96:	0	FY96:	0	FY96:	0	
	FY95:	0	FY95:	0	FY95:	0	
	FY94:	0	FY94:	0	FY94:	0	
<b>TOTAL:</b>							
<b>REMARKS:</b>		Training Losses/Usage: Reflect Sponsor-directed firings; new cable can be reused up to 5 times before replacement. Fleet introduction of new cable to be complete FY99.					

CLASSIFICATION:

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BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: <b>February 1999</b>					
APPROPRIATION/BUDGET ACTIVITY <b>Weapons Procurement, Navy BA 3 - Torpedoes and Related Equipment</b>								P-1 ITEM NOMENCLATURE <b>ASW Range Support BLI: 330200 SBHD: 83F4/C3F4</b>					
Program Element for Code B Items:								Other Related Program Elements					
	Prior Years	ID Code	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY													
COST (In Millions)				<b>\$11.5</b>	<b>\$14.5</b>	<b>\$15.2</b>	<b>\$14.6</b>	<b>\$13.0</b>	<b>\$13.2</b>	<b>\$13.5</b>	<b>\$13.8</b>		<b>\$109.3</b>
<p>The ASW Range support program provides training range equipment, weapon proofing range equipment, and Fleet support equipment for use on the Navy's underwater ranges. This equipment is used to instrument Fleet exercises and torpedo firings, ASW readiness assessment and ASW weapon production acceptance testing. The Weapon Fleet training ranges supported are Southern California Offshore Range (SCORE), Barking Sands Tactical Underwater Range/Barking Sands Underwater Range Extension (BARSTUR/BSURE), Atlantic Underwater Test and Evaluation Center (AUTEC) and Atlantic Fleet Weapons Training Facility (AFWTF). Test and Evaluation (T&amp;E) ranges are Nanoose, Dabob Bay and Quinault.</p> <p>F4001 - Pinger Exercise Components are placed in weapons and other underwater vehicles for tracking during training and T&amp;E exercises, and to insure safe operation and movement of all craft and weapons on the ranges. In addition, pinger components are also procured to support the future Shallow Water Training Ranges at both coasts and Hawaii.</p> <p>F4003 - Recovery Equipment is used on T&amp;E ranges for recovering weapons on or buried in the sea floor. Approximately \$10 million of hardware is recovered each year using these devices.</p> <p>F4004 - The T&amp;E Range Equipment line provides for improvement and modernization of the Underwater Weapons Evaluation Facility; range equipment for YTT (Yard Torpedo Tender) and test crafts; portable tracking range components used at remote sites for testing requirements in different sea-bottom, littoral and cold water environments; and other range systems in support of weapon T&amp;E operations.</p> <p>F4005 - The ASW Target MK 30 Mod 1 provides essential fleet ASW training on the Navy's underwater tracking ranges. The MK 30 Mod 1 is currently used at the BARSTUR - Hawaii, AUTEC- Bahamas, AFWTF - St. Croix, Virgin Islands and SCORE. ASW range support funds are used to procure components for the MK 30 that are consumed/expended during fleet in-water runs. These funds are also used to replace obsolete components and improve maintenance and reliability of the targets.</p> <p>F4006 - The stationary target components include the MK 28 Targets, the MK 69 Target, and the Over-the-Side (OTS) Target. MK 28 Targets are used for conducting Service Weapons Test (SWT) on in-service and advanced warshot torpedoes. The SWT is the only test the Navy has to verify the explosive chain of torpedoes. Funding is used to procure target systems and components expended during SWT operations in addition to improvement and modernization projects. The MK 69 is a bottom mounted stationary target and Over-the-side (OTS) is a surface deployed target used to test various weapon attributes during T&amp;E exercises. These targets are needed to fill specific technical requirements for the MK 48 ADCAP, MK 50 and lightweight Hybrid torpedo upgrades. Funding is used to procure components that improve operability and maintenance of the target.</p> <p>Production Engineering funds support efforts performed by a field activity or contractor during the production phase of these projects.</p>													

P-1 SHOPPING LIST

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WEAPONS SYSTEM COST ANALYSIS						Weapon System			DATE:					
P-5						P-1 ITEM NOMENCLATURE/SUBHEAD			February 1999					
APPROPRIATION/BUDGET ACTIVITY						ID Code			P-1 ITEM NOMENCLATURE/SUBHEAD					
Weapons Procurement, Navy									ASW Range Support BLI: 330200 SBHD: 83F4/C3F4					
BA 3 - Torpedoes and Related Equipment														
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLAR:											
			FY 1998			FY 1999			FY 2000					
			QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST	QTY	UNIT COST	TOTAL COST
<u>N86</u>														
F4001	Pinger Exercise Components				253			372			332			
F4003	Recovery Equipment				83			78			60			
F4004	Test & Evaluation Range Equipment				222			308			294			
F4005	MK30 Components				457			534			640			
F4006	Stationary Target Components				120			174			170			
F4830	Production Engineering In-House				160			316			170			
F4850	Product Improvement				177			242			206			
F4900	Production Engineering - Contractors				57			66			65			
<u>N87</u>														
F4001	Pinger Exercise Components				1,327			1,744			1,788			
F4003	Recovery Equipment				453			371			325			
F4004	Test & Evaluation Range Equipment				1,267			1,444			1,583			
F4005	MK30 Components				2,350			2,503			3,448			
F4006	Stationary Target Components				656			814			916			
F4830	Production Engineering In-House				901			1,481			915			
F4850	Product Improvement				1,006			1,137			1,109			
F4900	Production Engineering - Contractors				396			308			350			
<u>N88</u>														
F4001	Pinger Exercise Components				419			461			479			
F4003	Recovery Equipment							98			87			
F4004	Test & Evaluation Range Equipment							381			425			
F4005	MK30 Components				865			660			923			
F4006	Stationary Target Components							215			246			
F4830	Production Engineering In-House				125			392			245			
F4850	Product Improvement				168			300			297			
F4900	Production Engineering - Contractors				62			81			93			
<b>TOTAL</b>							<b>11,524</b>			<b>14,480</b>			<b>15,166</b>	

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BUDGET ITEM JUSTIFICATION SHEET P-40								DATE: February 1999					
APPROPRIATION/BUDGET ACTIVITY <b>WEAPONS PROCUREMENT, NAVY</b> <b>BA-3: Torpedoes and Related Equipment</b>								P-1 ITEM NOMENCLATURE/LINE ITEM # First Destination Transportation - BLI #241000					
Program Element for Code B Items:								OTHER RELATED PROGRM ELEMENTS					
	Prior Years	ID Code		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total
QUANTITY													0
EQUIPMENT COST (In Millions)	N/A			\$1.8	\$2.0	\$1.7	\$1.9	\$1.9	\$2.0	\$2.2	\$2.3		\$15.8
SPARES COST (In Millions)													0
<b>PROGRAM DESCRIPTION/JUSTIFICATION:</b>													
First Destination Transportation provides for the movement of newly procured equipment from the contractor's plant to the initial point of receipt for subsequent shipment to its destination.													
				<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>		
<b>Funding Totals</b>				\$1,764	\$1,972	\$1,663	\$1,855	\$1,923	\$2,033	\$2,158	\$2,333		

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