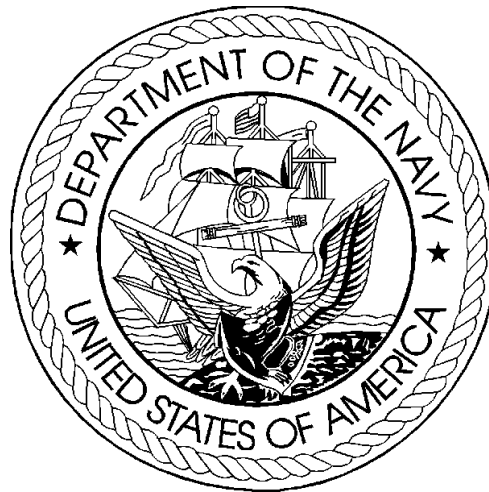


DEPARTMENT OF THE NAVY
FY 1999 AMENDED BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES
FEBRUARY 1998

RESEARCH, DEVELOPMENT, TEST &
EVALUATION, NAVY
BUDGET ACTIVITY 6

UNCLASSIFIED

Department of the Navy
FY 1999 RDT&E,N Program

Exhibit R-1

APPROPRIATION: 1319n Research, Development, Test and Evaluation, Navy

DATE: February 1998

R-1 Line Number	Program Element Number	Item Nomenclature	Dollars in Thousands				Security Classification
			Budget Activity	FY 1997	FY 1998	FY 1999	
131	0604256N	Threat Simulator Development	6	22,060	12,479	24,400	U
132	0604258N	Target Systems Development	6	28,200	43,705	54,800	U
133	0604759N	Major T & E Investment	6	35,952	34,164	17,281	U
134	0605152N	Studies & Analysis Support/Navy	6	7,884	6,124	10,132	U
135	0605154N	Center for Naval Analyses	6	40,474	35,347	44,201	U
136	0605155N	Fleet Tactical Development	6	2,821	2,650	2,748	U
137	0605502N	Small Business Innovative Research (Prior Year Only -- R2/R3 Not Required)	6	121,356	-	-	U
138	0605804N	Technical Information Services	6	4,768	3,166	8,513	U
139	0605853N	Management, Technical, & International Spt	6	18,985	17,943	28,690	U
140	0605856N	Strategic Tech Support (R2/R3 Materials provided in Classified Budget Book)	6	1,882	1,923	2,213	U
141	0605861N	RDT&EN Science & Technology Management	6	68,658	54,161	64,455	U
142	0605862N	RDT&EN Instrumentation Modernization	6	6,111	8,293	8,530	U
143	0605863N	RDT&E,N Ship & Aircraft Support	6	50,044	46,971	57,421	U
144	0605864N	Test and Evaluation Support	6	233,014	255,609	260,601	U
145	0605865N	Operational T&E Capability	6	7,966	8,773	9,194	U
146	0605866N	Navy SEW Support	6	2,176	2,521	3,477	U
147	0605867N	SEW Surveillance/Recon. Support	6	11,449	10,573	13,185	U
148	0605873M	Marine Corps Program Wide Support	6	8,618	6,631	7,132	U
149	0909999N	Cancelled Account Adjustments (Prior Year Only -- R2/R3 Not Required)	6	8,922	-	-	U
Total RDTE Management Support				681,340	551,033	616,973	

UNCLASSIFIED

Department of the Navy
FY 1999 RDT&E,N Program
Alphabetic Listing

Exhibit R-1

APPROPRIATION: 1319n Research, Development, Test and Evaluation, Navy

DATE: February 1998

R-1 Line Number	Program Element Number	Item Nomenclature	Dollars in Thousands				Security Classification
			Budget Activity	FY 1997	FY 1998	FY 1999	
149	0909999N	Cancelled Account Adjustments (Prior Year Only -- R2/R3 Not Required)	6	8,922	-	-	U
135	0605154N	Center for Naval Analyses	6	40,474	35,347	44,201	U
136	0605155N	Fleet Tactical Development	6	2,821	2,650	2,748	U
133	0604759N	Major T & E Investment	6	35,952	34,164	17,281	U
139	0605853N	Management, Technical, & International Spt	6	18,985	17,943	28,690	U
148	0605873M	Marine Corps Program Wide Support	6	8,618	6,631	7,132	U
146	0605866N	Navy SEW Support	6	2,176	2,521	3,477	U
145	0605865N	Operational T&E Capability	6	7,966	8,773	9,194	U
142	0605862N	RDT&EN Instrumentation Modernization	6	6,111	8,293	8,530	U
141	0605861N	RDT&EN Science & Technology Management	6	68,658	54,161	64,455	U
143	0605863N	RDT&E,N Ship & Aircraft Support	6	50,044	46,971	57,421	U
147	0605867N	SEW Surveillance/Recon. Support	6	11,449	10,573	13,185	U
137	0605502N	Small Business Innovative Research (Prior Year Only -- R2/R3 Not Required)	6	121,356	-	-	U
140	0605856N	Strategic Tech Support (R2/R3 Materials provided in Classified Budget Book)	6	1,882	1,923	2,213	U
134	0605152N	Studies & Analysis Support/Navy	6	7,884	6,124	10,132	U
132	0604258N	Target Systems Development	6	28,200	43,705	54,800	U
138	0605804N	Technical Information Services	6	4,768	3,166	8,513	U
144	0605864N	Test and Evaluation Support	6	233,014	255,609	260,601	U
131	0604256N	Threat Simulator Development	6	22,060	12,479	24,400	U
		Total RDTE Management Support		681,340	551,033	616,973	

RDT&E, Navy
Program and Financing (in Thousands of dollars)

Identification code	17-1319-0-1-051	Budget Plan (amounts for RESEARCH, DEV, TEST & EVAL actions programed)			Obligations		
		1997 actual	1998 est.	1999 est.	1997 actual	1998 est.	1999 est.
Program by activities:							
Direct program:							
00.0101	Basic research	345,606	338,743	362,679	347,232	321,791	361,241
00.0201	Applied Research	514,282	493,622	524,723	538,520	510,049	522,858
00.0301	Advanced technology development	462,002	514,781	460,725	526,719	488,623	463,967
00.0401	Demonstration/validation	1,904,375	2,219,002	2,358,359	1,948,060	2,132,484	2,350,003
00.0501	Engineering and manufacturing development	2,153,911	2,227,348	2,063,281	2,121,481	2,232,406	2,073,125
00.0601	Management support	681,340	551,033	616,973	707,119	555,438	613,016
00.0701	Operational system development	1,822,845	1,535,383	1,722,183	1,843,010	1,630,193	1,710,973
00.9101	Total direct program	7,884,361	7,879,912	8,108,923	8,032,141	7,870,984	8,095,183
01.0101	Reimbursable program	121,287	110,000	110,000	132,938	112,515	110,000
10.0001	Total	8,005,648	7,989,912	8,218,923	8,165,079	7,983,499	8,205,183
Financing:							
Offsetting collections from:							
11.0001	Federal funds(-)	-113,073	-110,000	-110,000	-110,978	-110,000	-110,000
14.0001	Non-Federal sources(-)	-8,214			-16,820		
17.0001	Recovery of prior year obligations				-33,145		
Unobligated balance available, start of year:							
21.4002	For completion of prior year budget plans				-605,401	-472,982	-479,395
21.4003	Available to finance new budget plans	-4,500	-53,879		-4,500	-53,879	
21.4009	Reprogramming from/to prior year budget plan	-12,643					
22.1001	Unobligated balance transferred to other acco		13,879			13,879	
22.2001	Unobligated balance transferred from other ac	-4,590			-4,590		
Unobligated balance available, end of year:							
24.4002	For completion of prior year budget plans				472,982	479,395	493,135
24.4003	Available to finance subsequent year budget	53,879			53,879		
25.0001	Unobligated balance expiring	355			355		
39.0001	Budget authority	7,916,862	7,839,912	8,108,923	7,916,862	7,839,912	8,108,923
Budget authority:							
40.0001	Appropriation	7,993,455	8,115,686	8,108,923	7,993,455	8,115,686	8,108,923
40.3601	Appropriation rescinded (unob bal)	-4,500	-40,000		-4,500	-40,000	
40.7601	Reduction pursuant to P.L. 105-56 (-), 8035		-251,265			-251,265	
40.7901	Line item veto cancellation (-)		-6,000			-6,000	
41.0001	Transferred to other accounts (-)	-182,207	-43,160		-182,207	-43,160	
42.0001	Transferred from other accounts	110,114	64,651		110,114	64,651	
43.0001	Appropriation (adjusted)	7,916,862	7,839,912	8,108,923	7,916,862	7,839,912	8,108,923

RDT&E, Navy
Program and Financing (in Thousands of dollars)

Identification code	17-1319-0-1-051	Budget Plan (amounts for RESEARCH, DEV, TEST & EVAL actions programed)			Obligations		
		1997 actual	1998 est.	1999 est.	1997 actual	1998 est.	1999 est.
Relation of obligations to outlays:							
71.0001	Obligations incurred				8,037,281	7,873,499	8,095,183
72.1001	Orders on hand, SOY				-156,141	-146,613	-146,613
72.4001	Obligated balance, start of year				4,310,635	4,003,286	4,251,788
74.1001	Orders on hand, EOY				146,613	146,613	146,613
74.4001	Obligated balance, end of year				-4,003,286	-4,251,788	-4,372,794
77.0001	Adjustments in expired accounts (net)				-82,345		
78.0001	Adjustments in unexpired accounts				-33,145		
90.0001	Outlays (net)				8,219,612	7,624,997	7,974,177

RDT&E, Navy
Object Classification (in Thousands of dollars)

Identification code	17-1319-0-1-051	1997 actual	1998 est.	1999 est.

Direct obligations:				
Personnel compensation:				
111.101	Full-time permanent	43,779	44,428	43,112
111.301	Other than full-time permanent	2,923	2,625	2,469
111.501	Other personnel compensation	1,494	1,563	1,527
111.801	Special personal services payments	27	27	28
		-----	-----	-----
111.901	Total personnel compensation	48,223	48,643	47,136
112.101	Personnel Benefits: Civilian personnel	10,194	10,653	10,207
113.001	Benefits for former personnel	522	484	441
121.001	Travel and transportation of persons	27,419	27,995	28,583
122.001	Transportation of things	544	556	567
123.201	Rental payments to others	3,256	3,324	3,394
123.301	Communications, utilities, and miscellaneous charges	4,895	4,998	5,103
124.001	Printing and reproduction	391	399	408
125.101	Advisory and assistance services	247,090	223,455	225,165
125.201	Other services with the private sector	11,212	235,465	95,918
Purchases goods/services (inter/intra) Fed accounts				
125.301	Purchase of goods/services from other Fed agencies	650,577	664,239	678,188
125.303	Purchases from revolving funds	2,385,085	2,077,579	2,183,869
125.401	Contract O&M of facilities including GOCOS	168	172	176
125.501	Research & Development Contracts	4,622,015	4,552,040	4,794,605
125.701	Contract O&M of equip. including ADP hard/software	1,706	1,742	1,779
126.001	Supplies and materials	7,767	7,930	8,097
131.001	Equipment	10,693	10,918	11,147
132.001	Land and structures	384	392	400
		-----	-----	-----
199.001	Total Direct obligations	8,032,141	7,870,984	8,095,183
Reimbursable obligations:				
Personnel Compensation:				
211.101	Full-time permanent	36,444	40,327	41,966
211.301	Other than full-time permanent	2,440	2,534	2,553
211.501	Other personnel compensation	977	899	937
		-----	-----	-----
211.901	Total personnel compensation	39,861	43,760	45,456
212.101	Personnel Benefits: Civilian Personnel	7,611	8,554	8,801
213.001	Benefits for former personnel	15		
221.001	Travel and transportation of persons	4,248	4,300	4,350
222.001	Transportation of things	227	240	251
223.201	Rental payments to others	1,647	1,702	1,735
223.301	Communications, utilities, and miscellaneous charges	1,826	1,880	1,890
224.001	Printing and reproduction	269	280	291

RDT&E, Navy
Object Classification (in Thousands of dollars)

Identification code	17-1319-0-1-051	1997 actual	1998 est.	1999 est.
225.201	Other services with the private sector		2,515	
	Purchases goods/services (inter/intra) Fed accounts			
225.301	Purchase of goods/services from other Fed agencies	263	270	278
225.501	Research & Development Contracts	62,207	33,789	31,603
226.001	Supplies and materials	10,586	10,945	11,030
231.001	Equipment	4,178	4,280	4,315
299.001	Total Reimbursable obligations	132,938	112,515	110,000
999.901	Total obligations	8,165,079	7,983,499	8,205,183

Comparison of FY 1997 Financing as reflected
in FY 1998 Budget with 1997 Financing as
Shown in the FY 1999 Budget

(\$ in Thousands)

	Financing per FY 1998 Budget	Financing Per FY 1999 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	7,855,754	7,884,361	+28,607
Program Requirements (Service Account)	(7,855,754)	(7,884,361)	(+28,607)
Program Requirements (Reimbursable)	121,831	121,287	-544
Appropriation (Adjusted)	7,977,585	7,916,862	+28,063

Explanation of Changes in Financing
(\$ in Thousands)

The Fiscal Year 1997 program has changed since the presentation of the FY 1998 budget as noted below:

1. Program Requirements (Total). There has been a net increase to the appropriation (adjusted) of +\$28,063, as a result of changes in program requirements as noted below.

2. Program Requirements (Service Account). There has been a net increase to the appropriation (adjusted) of +\$28,607. These changes included: a rescission to the FY 1997 program approved in the FY 1998 DoD Appropriations Act (-\$40,000); an Emergency Supplemental Appropriation based on reduced inflation rates to finance Bosnia contingency costs (-\$9,600); reductions reflected on the FY 1997 DoD Omnibus Reprogramming Action to specific programs (-\$1,232); reductions to finance Military Personnel, Navy (MPN) shortfalls (-\$10,270); and three transfers into the appropriation from a DoD central transfer account to support the RDT&E Counter Drug program (+\$23,774). Additionally, a number of Internal Reprogrammings were effected which reclassified funding between DoD and DoN appropriations to more properly align it into the correct programs for execution: (1) V-22 EMD (\$68,400--from APN); (2) Defense Finance and Accounting Service (DFAS)(\$9,240--from O&MN); (3) Large Area Tracking Radar (LATR) (-\$4,226--to OPN); (4) F-14 TARPS (+\$4,887--from APN); (5) Environmental Test Bed (+\$3,813--from Army); (6) Southeast Regional Network (SRN)(-\$2,300--to O&MN); (7) DDG-51 TBMD/CEC (-\$13,879).

3. Program Requirements (Reimbursable). There has been a net decrease to the appropriation of -\$544, as a result of changes in reimbursable program requirements (-\$544).

Comparison of FY 1997 Program Requirements as reflected
in the FY 1998 Budget with FY 1997 Program Requirements
as shown in the FY 1999 Budget

Summary of Requirements (\$ In Thousands)

	Total Program Requirements per FY 1998 Budget	Total Program Requirements per FY 1999 Budget	Increase (+) or Decrease (-)
01 - Basic Research	352,102	345,606	-6,496
02 - Applied Research	534,593	514,282	-20,311
03 - Advanced Technology Development	492,863	462,002	-30,861
04 - Demonstration and Validation (DEM/VAL)	1,937,283	1,904,375	-32,908
05 - Engineering and Manufacturing Development (EMD)	2,143,579	2,153,911	+10,332
06 - RDTE Management Support	540,473	681,340	+140,867
07 - Operational Systems Development	1,854,861	1,822,845	-32,016
Total Fiscal Year Program	7,855,754	7,884,361	+28,607

Explanation by Budget Activity
(\$ In Thousands)

01. Basic Research (-\$6,496) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$430) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (-\$5,884), and other changes in program requirements which required minor reprogrammings (-\$182).

02. Applied Research (-\$20,311) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$654) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (-\$7,186), and other changes in program requirements which required minor reprogrammings (-\$12,471).

03. Advanced Technology Development (-\$30,861) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$609) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (-\$8,200), and other changes in program requirements which required minor reprogrammings, budget activity realignments and accounting updates (-\$21,872).
04. Demonstration and Validation (DEM/VAL) (-\$32,908) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$2,358) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (-\$25,625), reductions to finance MPN shortfalls (-\$270), a reduction reflected on the FY 1997 DoD Omnibus Reprogramming Action (-\$1,232), a transfer from the Army for Environmental Test Bed at Puget Sound (+\$3,813) and from APN for the F-14 TARPS program (+\$4,887), and other changes in program requirements which required minor reprogrammings, budget activity realignments and accounting updates (-\$12,123).
05. Engineering and Manufacturing Development (EMD) (+\$10,332) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$2,633) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (-\$45,752), reductions to finance MPN shortfalls (-\$500), transfers from APN for the V-22 (EMD) program (+\$68,400) and to SCN for the DDG-51 TBMD/CEC program (-\$13,879), three transfers into the appropriation from a DoD central transfer account to support the RDT&E Counter Drug program (+\$23,774), and other changes in program requirements which required minor reprogrammings, budget activity realignments and accounting updates (-\$19,078).
06. RDTE Management Support (+\$140,867) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$658) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (+\$118,218), reductions to finance MPN shortfalls (-\$1,000), transfers from O&MN to properly fund the Defense Finance and Accounting Service (DFAS) program in RDT&E (+\$9,240), and other changes in program requirements which required minor reprogrammings, budget activity realignments and accounting updates (+\$15,067).
07. Operational Systems Development (-\$32,016) - Changes to this budget activity resulted from an Emergency Supplemental Appropriation rescission to finance Bosnia contingency costs (-\$2,258) based on reduced inflation rates, a transfer to support the Small Business Innovative Research (SBIR) program (-\$25,571), reductions to finance MPN shortfalls (-\$8,500), transfers to OPN for the Large Area Tracking Radar (LATR) program (-\$4,226) and to O&MN for the Southeast Regional Network (SRN) program (-\$2,300), and other changes in program requirements which required minor reprogrammings, budget activity realignments and accounting updates (+\$10,839).

Comparison of FY 1998 Financing as reflected
in FY 1998 Budget with 1998 Financing as
Shown in the FY 1999 Budget

(\$ In Thousands)

	Financing per FY 1998 Budget	Financing Per FY 1999 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	7,611,022	7,879,912	+268,890
Program Requirements (Service Account)	(7,611,022)	(7,879,912)	(+268,890)
Program Requirements (Reimbursable)	125,000	110,000	-15,000
Appropriation (Adjusted)	7,736,022	7,989,912	+253,890

Explanation of Changes in Financing
(\$ in Thousands)

The Fiscal Year 1998 program has changed since the presentation of the FY 1998 budget as noted below:

1. Program Requirements (Total). There has been a net increase to the appropriation (adjusted) of +\$268,890, as a result of changes in program requirements as noted below.

2. Program Requirements (Service Account). There has been a net increase to the appropriation (adjusted) of +\$268,890, resulting from changes in program requirements as a result of Congressional appropriation changes in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$4,607)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$23,400)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$121,735)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$101,523) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$18,000). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 148 specific initiatives) resulted in a net increase of +\$517,064. Congress also transferred +\$9,500 from SCN for Fast Patrol Boats and +\$45,000 for a SWATH Ship. Also, appropriation changes include: a correction from APN for +\$5,600 for the H-1 helicopter program (which was not effected); transfers from APN for the F/A-18 E/F program (+\$26,000); to Military Personnel, Navy (MPN) to fund program shortfalls (-\$28,700); a transfer to Ballistic Missile Defense Organization (BMDO) for Theater Missile Defense (-\$25,000); a reprogramming to fully fund minimum Major

Ranges and Test Facilities Base (MRTFB) costs (+\$16,000)(only +\$3,851 is transferring into RDT&E,N--the balance is from sources within RDT&E,N); and a transfer for the Chemical-Biological Defense program (-\$4,160).

3. Program Requirements (Reimbursable). There has been a net decrease to the appropriation of -\$15,000, as a result of changes in reimbursable program requirements (-\$15,000).

Comparison of FY 1998 Program Requirements as reflected
in the FY 1998 Budget with FY 1998 Program Requirements
as shown in the FY 1999 Budget

Summary of Requirements (\$ in Thousands)

	Total Program Requirements per FY 1998 Budget	Total Program Requirements per FY 1999 Budget	Increase (+) or Decrease (-)
01 - Basic Research	382,117	338,743	-43,374
02 - Applied Research	490,273	493,622	+3,349
03 - Advanced Technology Development	433,305	514,781	+81,476
04 - Demonstration and Validation (DEM/VAL)	2,135,069	2,219,002	+83,933
05 - Engineering and Manufacturing Development (EMD)	2,085,768	2,227,348	+141,580
06 - RDTE Management Support	595,265	551,033	-44,232
07 - Operational Systems Development	1,489,225	1,535,383	+46,158
Total Fiscal Year Program	7,611,022	7,879,912	+268,890

Explanation by Budget Activity
(\$ in Thousands)

01. Basic Research (-\$43,374) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$15)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$32)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$5,226)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$4,358) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$772). Specific FY 1998 Congressional adjustments resulted in a net reduction of -\$32,971.

02. Applied Research (+\$3,349) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$192)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$430)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$7,670)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$6,395) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$1,134). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 19 specific initiatives) resulted in a net increase of +\$18,250. Additionally, changes in program requirements required minor reprogrammings (+\$920).

03. Advanced Technology Development (+\$81,476) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$463)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$693)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$7,862)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$6,552) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$1,163). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 30 specific initiatives) resulted in a net increase of +\$89,640. Congress also transferred +\$9,500 from SCN for Fast Patrol Boats. Additionally, changes in program requirements required minor reprogrammings (-\$931).

04. Demonstration and Validation (DEM/VAL) (+\$83,933) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$1,258)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$2,211)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$34,422)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$28,699) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$5,092). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 35 specific initiatives) resulted in a net increase of +\$160,391. Also included is a transfer to MPN (-\$2,000). Additionally, changes in program requirements required minor reprogrammings (-\$2,776).

05. Engineering and Manufacturing Development (EMD) (+\$141,580) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$129)

(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$9,239)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$34,619)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$28,866) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate) (-\$5,111). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 41 specific initiatives) resulted in a net increase of +\$222,586. Congress also transferred +\$45,000 from SCN for a SWATH Ship. Also included are transfers to MPN (-\$22,700) and to BMDO for TBMD (-\$25,000), as well as a correction from APN for +\$5,600 for the H-1 helicopter program (which was not effected). Additionally, changes in program requirements required minor reprogrammings (-\$5,942).

06. RDTE Management Support (-\$44,232) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$2,362)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$6,547)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$8,491)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$7,077) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$1,258). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 8 specific initiatives) resulted in a net decrease of -\$26,606. Also included are a reprogramming to fully fund minimum Major Ranges and Test Facilities Base (MRTFB) costs (+\$16,000)(only +\$3,851 is transferring into RDT&E,N--the balance is from sources within RDT&E,N) and a transfer for the Chemical-Biological Defense program (-\$4,160). Additionally, changes in program requirements required minor reprogrammings (-\$3,731).

07. Operational Systems Development (+\$46,158) - Changes to this budget activity resulted from the following Congressional undistributed reductions reflected in the FY 1998 DoD Appropriations Act. These changes included: an undistributed reduction for Federally Financed Research and Development Centers (FFRDC)(-\$188)(Section 8035), an undistributed reduction for Contract Advisory and Assistance Services (CAAS)(-\$4,248)(Section 8041), a general undistributed RDT&E and procurement reduction of 1.5 percent (-\$23,445)(Section 8043) to finance flying hours and readiness, a general undistributed RDT&E reduction of 1.25 percent (-\$19,576) to finance National Missile Defense (NMD)(Section 8048), and a general reduction for revised economic assumptions (lower inflation rate)(-\$3,470). Specific FY 1998 Congressional adjustments (to start, continue or discontinue 13 specific initiatives) resulted in a net increase of +\$79,774. Also included is a transfer from APN for the F/A-18 program (+\$26,000). Additionally, changes in program requirements required minor reprogrammings (-\$8,689).

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROGRAM ELEMENT TITLE: Threat Simulator Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
E0602 Electronic Warfare Environment Simulation (ECHO)	12,108	4,385	14,403	17,869	18,146	18,471	18,847	CONT.	CONT.
E0672 Effectiveness of Navy Electronic Warfare Systems (ENEWS)	9,952	8,094	9,997	13,430	12,881	13,157	13,479	CONT.	CONT.
TOTAL	22,060	12,479	24,400	31,299	31,027	31,628	32,326	CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This is a continuing program that consolidates the design, fabrication and integration of Naval Electronic Warfare (EW) threat simulators for increased managerial emphasis and coordination. These simulator development efforts provide realistic Developmental and Operational Test and Evaluation (DT&E/OT&E) environments to test Tri-Services EW systems and defensive tactics. These projects develop former Soviet and Free-World Anti-Air and Anti-Ship weapon systems simulators in accordance with the Services requirements.

(U) The E0602 Project, EW Environment Simulation (ECHO) provides airborne system component level Test and Evaluation (T&E) at the Electronic Combat Simulation and Evaluation Laboratory (ECSEL), Naval Air Warfare Center Weapons Division (NAVAIRWARCENWPNDIV), Point Mugu, CA. ECHO also provides a secure anechoic closed loop T&E facility for fully integrated, aircraft-installed systems testing at the EW Integrated Systems Test Laboratory (EWISTL) at the Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV), Patuxent River, MD. Included in this Project is the T&E of airborne systems and tactics in flight, against the open air range at the Electronic Combat Range (ECR) complex located at the Naval Air Warfare Center Weapons Division (NAVAIRWARCENWPNDIV), China Lake, CA.

(U) The E0672 Project, Effectiveness of Navy EW Systems (ENEWS), is a Department of the Navy (DON) unique project that supports testing of Ship Self Defense efforts. ENEWS provides T&E of surface and subsurface shipboard systems and tactics in digitally modeled battle scenarios at the component, fully integrated single ship, multi-ship and full-up multi-platform battle group levels. ENEWS also provides a secure anechoic closed loop T&E facility specifically designed to test shipboard systems at the stand alone component or fully integrated systems level. The last and largest portion of this project addresses the flyable Infrared and Radio Frequency simulators flown on specially configured NP-3D aircraft to provide at-sea open air T&E of systems and tactics. All ENEWS assets are developed and maintained by the Naval Research Laboratory (NRL), Washington, DC.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research, and development use.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604256N PROJECT NUMBER: E0602
PROGRAM ELEMENT TITLE: Threat Simulator Development PROJECT TITLE: ECHO

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
E0602 Electronic Warfare Environment Simulation (ECHO)	12,108	4,385	14,403	17,869	18,146	18,471	18,847	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The objective of this project is development of necessary simulation facilities and approaches to allow determination of the effectiveness of EW in real world engagement situations and to support the introduction of modern, effective systems into Naval Aviation. The heavy use of test resources by all Services demonstrates the importance of these assets. The Navy has been very successful in executing all of its major programs, and to date has had no major technical problems.

(U) The EW Environment Simulation (ECHO) project is unique in that it is the only program within the Department of Defense (DOD) which develops and provides Naval anti-air warfare threat assets for Testing and Evaluation (T&E) and is a critical part of the Office of the Secretary of Defense (OSD) Test Resource Master Plan. The OSD Master Plan employs many ECHO project resources for planning, analysis, testing and verification of airborne EW equipment.

(U) This project directly supports the T&E requirements of the following programs: High Speed Anti-Radiation Missile, ALR-67(V)2,3,4, ALQ-126B, AN/ALQ-156, EW Advanced Technology (EWAT), Integrated Defensive Electronic Countermeasures (IDECM) (including the Radio Frequency Countermeasures (RFCM), Common Missile Warning System (CMWS), and Advanced Strategic Tactical Expendables (ASTE) subsystem T&E milestones), AVR-2, AAR-47, ALE-50, as well as other Tri-Service EW systems with initial operational capability dates in the 1990's and early 2000's.

(U) This project provides for the development of an Integrated Air Defense T&E capability to be fielded at each of the three sites comprising the Navy's Tri-Center complex: NAVAIRWARCENWPNDIV, China Lake and Point Mugu in CA, and NAVAIRWARCENACDIV, Patuxent River, MD.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0602

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ECHO

(U) Navy Air Defense Threat Simulator resource requirements are coordinated through the OSD CROSSBOW committee to avoid unwarranted duplication of effort among the services. The Navy Tri-Center approach to T&E resource development ensures project efficiency by cost reductions achievable through common development efforts which provide consistent, repeatable test results between test centers.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$100) Continued Validation and Updates - Simulation Evaluation (SIMEVAL).
- (U) (\$826) Continued Validation and Updates - Radar Updates.
- (U) (\$785) Continued Validation and Updates - Missile/Gun Updates.
- (U) (\$925) Continued Validation and Updates - Validation.
- (U) (\$1,167) Continued ECHO technical and engineering support.
- (U) (\$541) Continued ECHO System Engineering activity.
- (U) (\$994) Continued ECHO Test Requirements activity.
- (U) (\$3,020) Continued Weapon Systems - J-Band Advanced Technology Simulators (JBATS).
- (U) (\$500) Completed Multispectral Systems - Multispectral Anti-Air Test System (MATS).
- (U) (\$857) Initiated Ultraviolet (UV) Stimulator.
- (U) (\$2,393) Initiated I-23 Advanced Capability.

2. (U) FY 1998 PLAN:

- (U) (\$50) Continue Validation and Updates - SIMEVAL.
- (U) (\$145) Continue Validation and Updates - Radar Updates.
- (U) (\$200) Continue Validation and Updates - Validation.
- (U) (\$961) Continue ECHO technical and engineering support.
- (U) (\$220) Continue ECHO System Engineering activity.
- (U) (\$355) Continue ECHO Test Requirements activity.
- (U) (\$1,719) Complete Weapon Systems - JBATS.
- (U) (\$125) Continue UV Stimulator.
- (U) (\$610) Continue I-23 Advanced Capability.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0602

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ECHO

3. (U) FY 1999 PLAN:

- (U) (\$50) Continue Validation and Updates - SIMEVAL.
- (U) (\$727) Continue Validation and Updates - Radar Updates.
- (U) (\$450) Continue Validation and Updates - Missile/Gun Updates.
- (U) (\$618) Continue Validation and Updates - Validation.
- (U) (\$2,012) Continue ECHO technical and engineering support.
- (U) (\$484) Continue ECHO System Engineering activity.
- (U) (\$1,364) Continue ECHO Test Requirements activity.
- (U) (\$125) Complete UV Stimulator.
- (U) (\$1,419) Complete I-23 Advanced Capability.
- (U) (\$1,272) Initiate/Complete Blue Army Threat Seeker for Missile on Mountain (MOM).
- (U) (\$1,060) Initiate/Complete Infrared (IR)/UV seeker.
- (U) (\$530) Initiate/Complete I-23 additional seeker integration.
- (U) (\$1,272) Initiate/Complete SA-XX seeker for MOM.
- (U) (\$2,120) Initiate/Complete JBATS Enhanced Capabilities.
- (U) (\$900) Initiate/Complete Threat Support System.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0602

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ECHO

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	12,566	4,519	4,454
(U) Appropriated Value:	13,102		
(U) Adjustments from PRESBUDG:	-458	-134	9,949
(U) FY 1999 President's Budget Submit:	12,108	4,385	14,403

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 1997 net decrease of -\$458 thousand reflects a -\$242 thousand Small Business Innovative Research transfer, a -\$201 thousand for Below Threshold Reprogramming.

The FY 1998 net decrease of -\$134 thousand consists Congressional adjustments.

The FY 1999 net increase of \$9,949 thousand reflects additional funding for IDECM of +\$10,000 thousand, +\$26 thousand pricing adjustment and -\$77 inflation adjustment.

(U) Schedule: Due to the adjustments in FY 1997, the threat simulators validation schedule will slip by one year, from FY 1997 to FY 1998 and the support to the Tri-Service / DIA software re-engineering effort will be limited. Due to the adjustment in FY 1998, implementation of the EA-6B ICAP III Test Resource Requirement planning has been delayed by 6 months from 2Q/98 to 4Q/98. Due to the adjustments in FY 1999, vital IDECM Test assets will now be initiated/completed to support IDECM test schedule.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0602

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ECHO

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Hardware Development	5,053	1,363	6,177
b. Software Development	2,078	919	2,648
c. System Engineering	541	220	484
d. System Integration	1,200	217	950
e. Validation	925	200	618
f. Configuration Management	150	150	150
g. Program Management Support	1,167	961	2,012
h. Miscellaneous (Requirements)	994	355	1,364
Total	12,108	4,385	14,403

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604256N PROJECT NUMBER: E0602
 PROGRAM ELEMENT TITLE: Threat Simulator Development PROJECT TITLE: ECHO

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY 1996 & Prior	FY 1997 Budget	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Product Development										
MM/NAVSUP	SS-CPFF	10/89	39,655	39,655	39,655	0	0	0	0	39,655
EWA/NAVSUP	C-CPFF	10/94	11,782	11,782	9,716	1,866	200	0	0	11,782
WHITT/CL	SS-CPFF	5/87	35,977	35,977	35,977	0	0	0	0	35,977
VIASAT/NSUP	SS-CPFF	4/93	4,903	4,903	4,903	0	0	0	0	4,903
ASDI/CL	SS-FFP	5/91	1,561	1,561	1,561	0	0	0	0	1,561
CTA/CL	C-CPFF	7/99	5,925	5,925	0	0	0	4,325	1,600	5,925
NAWC-WD/CL	WX	10/98			27,156	6,458	2,990	6,225	CONT.	CONT.
MISCELLANEOUS (EFFORTS < \$1M EACH)					8,504	3,784	1,195	3,853	CONT.	CONT.
Support and Management										
MRTFB Requirements	WX	5/96			5,322	0	0	0	0	5,322
Project MEMPHIS	MP	4/96			2,640	0	0	0	0	2,640
MISCELLANEOUS (EFFORTS < \$1M EACH)					619	0	0	0	0	619

Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

	Total FY 1996 & Prior	FY 1997 Budget	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Subtotal Production Development	125,911	12,108	4,385	14,403	Cont.	Cont.
Subtotal Support and Management	8,581	0	0	0	0	8,581
Subtotal Test and Evaluation	0	0	0	0	0	0
Total Project	134,492	12,108	4,385	14,403	Cont.	Cont.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604256N PROJECT NUMBER: E0672
PROGRAM ELEMENT TITLE: Threat Simulator Development PROJECT TITLE: ENEWS

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
E0672 Effectiveness of Navy Electronic Warfare Systems (ENEWS)	9,952	8,094	9,997	13,430	12,881	13,157	13,479	CONT.	CONT.

A.(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The objective of the Effectiveness of Navy EW Systems (ENEWS) project is the development and application of necessary simulation assets to determine the effectiveness of EW in real-world engagement situations and primarily supports the introduction of modern, effective shipboard EW systems, and tactics for the surface Navy. The heavy use of ENEWS resources by NAVSEA and other developers speaks to the overall importance of these assets. The project provides support for EW system design, Development Test (DT), Operational Test (OT), and the development of tactics. Its quick reaction capabilities have had great impact on crisis situations such as the Falklands conflict, the Iran Harpoon threat, the Persian Gulf crisis, and Operation Desert Shield/Storm.

(U) The primary threat to surface ships is Anti-Ship Missile (ASM) systems. The ENEWS project is unique in that it is the only project within the Department of Defense (DOD) dedicated to developing and providing assets to test and evaluate the effectiveness of shipboard EW systems and tactics against ASMs.

(U) The ENEWS project is a critical part of the OSD Test Resource Master Plan. This plan employs many of the ENEWS assets for planning, analysis, testing and verification of shipboard EW systems and tactics. As part of its normal activities, ENEWS will provide T&E/DT&E/OT&E support to Combat Ship Systems Qualification Tests (CSSQT) for CG-47, DDG-51 and CV/CVN class ships as well as SLQ-32 PHASE improvements. DT and OT support will be provided for the SLQ-32 PHASE improvements, R17.OX (NULKA, Giant IR Decoys), the phase-in of AIEWS in FY-00, Rapid Anti-ship Integrated Defense System (RAIDS), all TORCH tests, Advanced IR Decoys, Decoy placemet (Littoral), Ship IR Signature, AN/ALQ-99 ADVCAP, Multiband Anti-ship Cruise Missile Defense Tactical EW System (MATES), High Power Microwave (HPM) Program and other Ship Self-Defense initiatives including RDT&E 6.3A Advanced Technology Demonstrations and 6.2 EW Technology Base programs. ENEWS assests are also employed to test the effectiveness of NATO ships EW systems.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0672

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ENEWS

(U) Computer simulation and modeling, hardware in the loop (HITL) test facilities, and ASM simulators flown on a specially configured NP-3D aircraft are the major program assets. Resources are used in combination to measure EW system effectiveness in a cost efficient manner.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$550) Continued Computer Simulation (COMSIM) System Modernization.
- (U) (\$475) Continued COMSIM Scenerio Implementation, Database & Model Updates
- (U) (\$470) Continued COMSIM System Engineering, Scenario Generator & Database Development.
- (U) (\$125) Continued COMSIM Electronic Warfare Simulation.
- (U) (\$303) Continued COMSIM Systems, Force on Force Simulation & Visualization Development.
- (U) (\$2,265) Continued Radio Frequency Simulation (RFSIM) Simulator Modernization.
- (U) (\$1,069) Continued RFSIM Simulator Upgrades.
- (U) (\$335) Continued RFSIM Validation.
- (U) (\$444) Continued RFSIM Anti-Ship Missile Simulator Development.
- (U) (\$530) Continued RFSIM Laboratory Systems Development.
- (U) (\$475) Continued RFSIM Field Systems Development & Data Analysis.
- (U) (\$1,270) Continued Infrared Simulation (IRSIM) Modernization.
- (U) (\$300) Continued IRSIM Flyable Simulator Upgrades.
- (U) (\$360) Continued IRSIM New Advanced Systems.
- (U) (\$177) Continued IRSIM Flyable Systems Development.
- (U) (\$804) Continued Program Engineering & Technical Support.

2. (U) FY 1998 PLAN:

- (U) (\$550) Continue COMSIM System Modernization.
- (U) (\$525) Continue COMSIM Scenerio Implementation, Database & Model Updates
- (U) (\$380) Continue COMSIM System Engineering, Scenario Generator & Database Development.
- (U) (\$125) Continue COMSIM Electronic Warfare Simulation.
- (U) (\$70) Continue COMSIM Systems, Force on Force Simulation & Visualization Development.
- (U) (\$2,381) Continue RFSIM Simulator Modernization.
- (U) (\$988) Continue RFSIM Simulator Upgrades.
- (U) (\$518) Continue RFSIM Anti-Ship Missile Simulator Development.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0672

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ENEWS

(U) FY 1998 PLAN (Con't):

- (U) (\$212) Continue RFSIM Laboratory Systems Development.
- (U) (\$300) Continue RFSIM Field Systems Development & Data Analysis.
- (U) (\$1,280) Continue IRSIM Modernization.
- (U) (\$320) Continue IRSIM Flyable Simulator Upgrades.
- (U) (\$206) Continue IRSIM Flyable Systems Development.
- (U) (\$239) Continue Program Engineering & Technical Support.

3. (U) FY 1999 PLAN:

- (U) (\$600) Continue COMSIM System Modernization.
- (U) (\$600) Continue COMSIM Scenario Implementation, Database & Model Updates
- (U) (\$450) Continue COMSIM System Engineering, Scenario Generator & Database Development.
- (U) (\$300) Continue COMSIM Electronic Warfare Simulation.
- (U) (\$191) Continue COMSIM Systems, Force on Force Simulation & Visualization Development.
- (U) (\$3,279) Continue RFSIM Simulator Modernization.
- (U) (\$833) Continue RFSIM Simulator Upgrades.
- (U) (\$452) Continue RFSIM Anti-Ship Missile Simulator Development.
- (U) (\$260) Continue RFSIM Laboratory Systems Development.
- (U) (\$391) Continue RFSIM Field Systems Development & Data Analysis.
- (U) (\$1,250) Continue IRSIM Modernization.
- (U) (\$600) Continue IRSIM Flyable Simulator Upgrades.
- (U) (\$307) Continue IRSIM Flyable Systems Development.
- (U) (\$484) Continue engineering development of new simulators.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0672

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ENEWS

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	10,008	8,341	10,556
(U) Appropriated Value:	10,434		
(U) Adjustments from PRESBUDG:	-56	-247	-559
(U) FY 1999 President's Budget Submit:	9,952	8,094	9,997

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 1997 net decrease of -\$56 thousand reflects -\$44 thousand for a Small Business Innovative Research transfer and -\$12 thousand for below threshold reprogramming actions.

The FY 1998 net decrease of -\$247 thousand consists of Congressional Adjustments.

The FY 1999 net decrease of -\$559 thousand consists of -\$380 thousand pricing adjustment and -\$179 thousand inflation adjustment.

(U) Schedule: Due to the adjustments in FY 1997, updates to Intel databases were delayed one year, from FY 1997 to FY 1998 and Program Management Support was also reduced. Due to the adjustments in FY 1998 the Dual RF/ARM Seeker Simulator effort will be reduced without any delays. Due to the adjustments in FY 1999, Infrared Replica Simulator readiness will not be maintained, and start up of the Performance Monitor will be delayed from FY99 to FY00.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 11 of 14 Pages)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0672

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ENEWS

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Program Management Support	804	239	484
b. Research Personnel	6,194	6,204	6,884
c. Travel	230	210	220
d. Training	121	110	115
e. Developmental Support Equipment Acquisition	2,284	1,331	2,294
f. Miscellaneous	319	0	0
Total	9,952	8,094	9,997

R-1 Item No. 131
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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 12 of 14 Pages)

UNCLASSIFIED

FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604256N PROJECT NUMBER: E0672
PROGRAM ELEMENT TITLE: Threat Simulator Development PROJECT TITLE: ENEWS

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY 1996 & Prior	FY 1997 Budget	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
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Product Development

NRL	WX	10/98			118,913	9,148	7,855	9,513	CONT.	CONT.
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Support and Management

Miscellaneous (EFFORTS < \$1M EACH)					710	804	239	484	CONT.	CONT
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Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 13 of 14 Pages)

UNCLASSIFIED

FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: FEBRUARY 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604256N

PROJECT NUMBER: E0672

PROGRAM ELEMENT TITLE: Threat Simulator Development

PROJECT TITLE: ENEWS

	<u>FY 1996</u> <u>& Prior</u>	<u>FY 1997</u> <u>Budget</u>	<u>FY 1998</u> <u>Budget</u>	<u>FY 1999</u> <u>Budget</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Subtotal Production Development	118,913	9,148	7,855	9,513	CONT.	CONT.
Subtotal Support and Management	710	804	239	484	CONT.	CONT.
Subtotal Test and Evaluation	0	0	0	0	0	0
Total Project	119,623	9,952	8,094	9,997	CONT.	CONT.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROGRAM ELEMENT TITLE: Target Systems Development

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 <u>ACTUAL</u>	FY 1998 <u>ESTIMATE</u>	FY 1999 <u>ESTIMATE</u>	FY 2000 <u>ESTIMATE</u>	FY 2001 <u>ESTIMATE</u>	FY 2002 <u>ESTIMATE</u>	FY 2003 <u>ESTIMATE</u>	TO <u>COMPLETE</u>	TOTAL <u>PROGRAM</u>
A0609 Aerial Target Systems Development	6,982	32,074	36,707	23,803	25,557	30,189	32,581	Cont.	Cont.
A0610 Weapon Systems T&E Development/Procurement	20,461	10,743	17,056	28,469	15,321	17,353	15,006	Cont.	Cont.
R&D Articles	5	5	7	10	8	8	6		
S0612 Surface Targets Development	757	0	0	0	0	0	0	0	757
R&D Articles	1	0	0	0	0	0	0		
20612 Surface Targets Dev.	0	888	1,037	1,132	1,217	1,237	1,259	Cont.	Cont.
R&D Articles	0	1	1	0	0	0	0		
TOTAL	28,200	43,705	54,800	53,404	42,095	48,779	48,846	Cont.	Cont.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element funds the development and procurement of aerial and surface targets and associated Target Augmentation and Auxiliary Systems (TA/AS) necessary to duplicate or simulate threat characteristics in support of weapons systems test and evaluation and fleet training. Included within this program element are continued development of: BQM-74 improvements, Subsonic Subscale Aerial Target (SSAT), various TA/AS developments, development of the Aerial Target Launch Ship (ATLS) for VANDAL, SM-II target variant, the Foreign Comparative Test (FCT) and development of the Russian MA-31 air-to-surface missile (A0609), Navy QF-4S for conversions, continued support of the joint QF-4 full scale aerial target development program, procurement of MQM-8G(EER), development and procurement of TA/AS Vector Scoring (A0610) and development of surface targets for test and evaluation, continued development of surface towed targets, improved target control system and an anti-radiation missile target (S0612).

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0609

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Aerial Targets System Development

(U) COST (Dollars in thousands)

<u>PROJECT NUMBER & TITLE</u>	<u>FY 1997 ACTUAL</u>	<u>FY 1998 ESTIMATE</u>	<u>FY 1999 ESTIMATE</u>	<u>FY 2000 ESTIMATE</u>	<u>FY 2001 ESTIMATE</u>	<u>FY 2002 ESTIMATE</u>	<u>FY 2003 ESTIMATE</u>	<u>TO COMPLETE</u>	<u>TOTAL PROGRAM</u>
A0609 Aerial Target Systems Development	6,982	32,074	36,707	23,803	25,557	30,189	32,581	Cont.	Cont.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Aerial Target Systems and associated target augmentation and auxiliary systems are developed in response to the need to test and provide training for Joint strike and littoral warfare systems required to defend fleet surface and air units in a hostile environment. The threat envelope covered extends from the surface to 100K feet for speeds in the low subsonic range to MACH 4.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$ 861) Initiated the Subsonic Subscale Aerial Target (SSAT) program.
- (U) (\$1,099) Continued Modeling & Simulation (M & S)
- (U) (\$ 346) Continued TA/AS support
- (U) (\$2,135) Initiated integration of the Vandal target launcher onto the Aerial Target Launch Ship (ATLS).
- (U) (\$1,416) Continued MA-31 development to include extended range (transferred from A0610).
- (U) (\$1,125) Continued target support.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 2 of 16)

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FY 1998 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0609

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Aerial Targets System Development

2. (U) FY 1998 PLAN:

- (U) (\$ 5,589) Continue SSAT development.
- (U) (\$ 960) Continue Target/ Threat Characterization (TCC)(previously under M & S)
- (U) (\$1,870) Continue TA/AS development for aerial targets.
- (U) (\$3,175) Continue ATLS.
- (U) (\$3,931) Continue MA-31 development.
- (U) (\$14,183) Initiate development of the Standard Missile-II (SM-II) as a target variant.
(Funding moved from program element 0604366N).
- (U) (\$2,366) Continue target support

3. (U) FY 1999 PLAN:

- (U) (\$10,356) Continue SSAT development.
- (U) (\$ 1,266) Continue Target/Threat Characterization (TCC)(previously under M & S)
- (U) (\$4,733) Continue TA/AS development
- (U) (\$ 617) Complete ATLS.
- (U) (\$4,253) Continue MA-31 development
- (U) (\$12,746) Continue development of the SM- II missile as a target variant.
- (U) (\$2,736) Continue Target support.

R-1 Item No. 132

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 3 of 16)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0609

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Aerial Targets System Development

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998/99 President's Budget:	8,433	33,321	37,034
(U) Appropriated Value	8,914		
(U) Adjustments from PRESBUDG:	-1,451	-1,247	-327
(U) FY 1999 PRESBUDG Budget Submit:	6,982	32,074	36,707

(U) CHANGE SUMMARY EXPLANATION:

(U) **Funding:** The decrease of \$1,451K in FY 1997 includes \$77K for the Small Business Innovative Research (SBIR) assessment; \$13K for revised economic assumptions as well as a \$1,361K reprogramming to Project A0610 (Weapons Systems T&E Dev/Procurement). The decrease of \$1,247 in FY 1998 is due to Congressional undistributed reductions. The FY 1999 decrease of \$327K is the result of Navy Working Capital Fund adjustments, and minor economic adjustments.

(U) **Schedule:** Not applicable

(U) **Technical:** Not applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in thousands)

	<u>FY 1997</u>	<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>TO</u>	<u>TOTAL</u>
	<u>ACTUAL</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>COMPLETE</u>	<u>PROGRAM</u>
(U) WPN # 12	73,862	63,993	75,474	80,435	90,089	91,284	102,768	CONT.	CONT.

(U) RELATED RDT&E:

- (U) PE 0204136N (F/A-18 Squadrons)
- (U) PE 0205667N (F-14 Upgrade)
- (U) PE 0207161N (Tactical Air Intercept)
- (U) PE 0207163N (Advanced Medium Range Air-to-Air Missile)
- (U) PE 0604366N (Standard Missile Improvement)
- (U) PE 0604372N (New Threat Upgrade)
- (U) PE 0604755N (Ship Self Defense)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0609

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Aerial Targets System Development

D. SCHEDULE PROFILE: N/A

A. (U) PROJECT COST BREAKDOWN: (\$in thousands)

<u>Project Cost Categories</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Hardware Development	1,740	12,589	19,930
b. Systems Engineering	1,192	5,720	6,756
c. Integrated Logistics Support	42	999	870
d. Test and Evaluation	45	7,844	2,830
e. Configuration Management	0	310	500
f. Contractor Engineering Support	1,556	2,531	3,257
g. Government Engineering Support	2,264	1,803	2,300
h. Travel	143	278	264
Total	6,982	32,074	36,707

R-1 Item No. 132

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, page 5 of 16)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0609

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Aerial Targets System Development

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$In thousands)

PERFORMING ORGANIZATIONS

<u>Contractor/ Government Performing Activity</u>	<u>Contract Method/ Fund Typ Vehicle</u>	<u>Award/ Oblig Date</u>	<u>Perform Activity EAC</u>	<u>Project Office EAC</u>	<u>Total FY 96& Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Product Development										
Motorola										
Phoenix, AZ										
NAVS	C/CPIF	9/93	14,055	14,055	14,055	0	0	0	0	14,055
ATLS (Integrn)	S/CPIF	12/97	9,833	9,833	0	1,785	2,930	625	4,493	9,833
McDonnell Douglas/Boeing										
St. Louis, MO										
MA-31	S/CPFF	3/98	20,809	20,809	0	740	2,002	3,420	14,647	20,809
Standard Missile Company										
SSST/TBMT		12/97	24,011	24,011	0	0	13,201	10,810	0	24,011
TBD										
SSAT	TBD	6/98	75,637	75,637	0	0	3,743	8,278	63,616	75,637
Misc Contracts										
Contract Less Than \$1.0M										
HQ/NAWCWD & NAWCAD (Misc) RX Var					1,067	0	0	360	Cont.	Cont.
HQ/NAWCWD,NAWCAD&NADEPs (Misc)WX/RX			Var		11,487	2,123	6,529	9,964	Cont.	Cont.
HQ/NSWC (Misc)	WX	Var					50	50	Cont.	Cont.

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0609

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Aerial Targets System Development

<u>Contractor/ Government Performing Activity</u>	<u>Contract Method/ Fund Typ Vehicle</u>	<u>Award/ Oblig Date</u>	<u>Perform Activity EAC</u>	<u>Project Office EAC</u>	<u>Total FY 96 & Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Support and Management										
HQ/NAWC/NADEP WX/RX (Misc)		Var.			4,032	2,289	2,004	2,137	Cont.	Cont.
HQ/NSWC (Misc)		Var.					527	545	Cont.	Cont.
Test and Evaluation										
HQ/NAWC (Misc)		Var.			907	45	458	280	Cont.	Cont.
HQ/NSWC (Misc)		Var.					630	238	Cont.	Cont.
GOVERNMENT FURNISHED PROPERTY: Not applicable.										
					<u>Total FY 96 & Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Subtotal Product Development					33,342	4,648	28,455	33,507	Cont.	Cont.
Subtotal Support and Management					4,032	2,289	2,531	2,682	Cont.	Cont.
Subtotal Test and Evaluation					907	45	1,088	518	Cont.	Cont.
TOTAL PROJECT					<u>38,281</u>	<u>6,982</u>	<u>32,074</u>	<u>36,707</u>	<u>Cont.</u>	<u>Cont.</u>

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 **PROGRAM ELEMENT: 0604258N** **PROJECT NUMBER: A0610**
PROGRAM ELEMENT TITLE: Target Systems Development **PROJECT TITLE: Weapon Systems T&E Development/Procurement**

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TO	TOTAL
	<u>ACTUAL</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>COMPLETE</u>	<u>PROGRAM</u>
A0610 WEAPON SYSTEMS T&E DEVELOPMENT/PROCUREMENT	20,461	10,743	17,056	28,469	15,321	17,353	15,006	Cont.	Cont.
R&D Articles	5	5	7	10	8	8	6		

A. (U) **MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** This project provides for the development and procurement of aerial targets used solely for test and evaluation of Naval Weapons Systems which closely replicate current and projected threats to fleet units in the Joint Strike and the Littoral Warfare environments. This replication must include characteristics related to size, performance envelope, and electromagnetic and infrared signatures. As threats change, changes must be made to keep the targets as threat representative as possible. This is done in response to changes in the requirements of the developers of naval weapons systems.

B. (U) **PROGRAM ACCOMPLISHMENTS AND PLANS:**

1. (U) **FY 1997 ACCOMPLISHMENTS:**

- (U) (\$ 10,430) Supported, upgraded universal control console (UCC) equipment, developed and fabricated avionics units and converted 5 F-4S aircraft into QF-4S targets. Included Vector Scorer (VS) integration efforts.
- (U) (\$ 6,592) Second increment and support for procurement of Vandals.
- (U) (\$ 1,473) Development of the Vandal Home-on beacon.
- (U) (\$1,891) Continued Vector Scorer type T & E TA/AS development/procurement/support.
- (U) (\$ 75) Continued Miscellaneous target support

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FY1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 **PROGRAM ELEMENT: 0604258N** **PROJECT NUMBER: A0610**
PROGRAM ELEMENT TITLE: Target Systems Development **PROJECT TITLE: Weapon Systems T&E Development/Procurement**

2. (U) FY 1998 PLAN:

- (U) (\$10,282) Program, engineering and logistic support including Aviation Depot Level Repairables (AVDLR), procure kit material and convert 5 F-4S aircraft into QF-4S targets.
- (U) (\$ 29) Continue Vector Scorer type T & E TA/AS development/procurement/support.
- (U) (\$ 338) Continue VANDAL support.
- (U) (\$ 94) Continue target support.

3. (U) FY 1999 PLAN:

- (U) (\$14,468) Program, engineering, and logistic support including AVDLR; procure kit material and equipment; fabricate and install kits; and convert 7 F-4S aircraft into QF-4S targets.
- (U) (\$ 1,610) Continue T & E TA/AS Vector Scoring development/procurement/support.
- (U) (\$ 860) Continue VANDAL support.
- (U) (\$ 118) Continue Target Support.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604258N
PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT NUMBER: A0610
PROJECT TITLE: Weapon Systems T&E Development/Procurement

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998/99 President's Budget:	18,637	14,043	16,690
(U) Appropriated Value	19,472		
(U) Adjustments from PRESBUDG:	1,824	-3,300	366
(U) FY 1999 PRESBUDG Budget Submission:	20,461	10,743	17,056

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 1997 net increase of \$1,824K is a result of the SBIR assessment, Congressional and OSD Programmatic adjustments as well as a reprogramming from Project A0609 (Aerial Targets System Development). The FY 1998 decrease of \$3,300K is a result of a \$2,900K NAVS programmatic reduction as well as Congressional undistributed reductions. The net increase of \$366K in FY 1999 is the result of Navy Working Capital Fund and minor economic adjustments.

(U) Schedules : N/A

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0204136N	(F/A-18 Squadrons)
(U) PE 0205667N	(F-14 Upgrade)
(U) PE 0207161N	(Tactical Air Intercept)
(U) PE 0207163N	(Advanced Medium Range Air-to-Air Missile)
(U) PE 0604258N	(Standard Missile Improvement)
(U) PE 0604372N	(New Threat Upgrade)
(U) PE 0604755N	(Ship Self Defense)

D. (U) SCHEDULE PROFILE: N/A

R-1 Item No. 132

Exhibit R-2, RDT&E Budget Item Justification
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FY 1998 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: A0610

PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT TITLE: Weapon Systems T&E Development/Procurement

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Hardware Develop/Procurement	12,792	2,941	6,317
b. Material	801	1,488	3,207
c. Systems Engineering	3,122	1,769	1,395
d. Integrated Logistics Support	597	900	746
e. Test and Evaluation	0	0	0
f. Configuration Management	364	434	241
g. Contractor Engineering Support	469	655	428
h. Government Engineering Support	2,205	2,471	4,627
i. Travel	111	85	95
Total	20,461	10,743	17,056

R-1 Item No. 132

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, page 11 of 16)

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FY 1998 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 **PROGRAM ELEMENT: 0604258N** **PROJECT NUMBER: A0610**
PROGRAM ELEMENT TITLE: Target Systems Development **PROJECT TITLE: Weapon Systems T&E Development/Procurement**

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ In thousands)

PERFORMING ORGANIZATIONS

<u>Contractor/ Government Performing Activity</u>	<u>Contract Method/ Fund Typ Vehicle</u>	<u>Award/ Oblig Date</u>	<u>Perform Activity EAC</u>	<u>Project Office EAC</u>	<u>Total FY 1996 & Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Product Development										
Allied Signal										
MQM-8G(EER)	C/CPFF	12/95	13,760	13,760	6,130	7,005	0	625	0	13,760
Motorola										
NAVS	C/CPFF	9/93	2,755	2,755	2,115	640	0	0	0	2,755
Cambridge Consultants										
Vector Scorer (ARMS Upgrade)	FFP	7/97	1,226	1,226	0	560	0	262	404	1,226
TBD										
VS Development/Procurement		7/98	2,330	2,330	0	0	0	1,147	1,183	2,330
NAWCWD/NADEP (QF-4N/S)WX/RX					23,066	10,379	9,878	12,189	Cont.	Cont.
Misc. Contracts (For Record Purposes)					5,048					
Contract Less Than \$1.0M										
HQ/NAWC (Misc)	WX	Var.			4,696	1,510	311	2,405	Cont.	Cont.
NAWC	RX	10/96			1,138	45	0	0	Cont.	Cont.
Support and Management										
HQ/NAWC (MISC)		Var.			2,231	322	554	428	Cont.	Cont.
Test and Evaluation					0	0	0	0	Cont.	Cont.

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FY 1998 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604258N
PROGRAM ELEMENT TITLE: Target Systems Development

PROJECT NUMBER: A0610
PROJECT TITLE: Weapon Systems T&E Development/Procurement

GOVERNMENT FURNISHED EQUIPMENT: Not applicable

	<u>Total FY 1996 & Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Subtotal Product Development	42,193	20,139	10,189	16,628	Cont.	Cont.
Subtotal Support and Management	2,231	322	554	428	Cont.	Cont.
Subtotal Test and Evaluation	0	0	0	0	0	0
Total Project	<u>44,424</u>	<u>20,461</u>	<u>10,743</u>	<u>17,056</u>	<u>Cont.</u>	<u>Cont.</u>

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604258N PROJECT NUMBER: S0612/20612
PROGRAM ELEMENT TITLE: TARGET SYSTEMS DEVELOPMENT PROJECT TITLE: SURFACE TARGETS DEVELOPMENT

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
S0612 Surface Targets Development	757	0	0	0	0	0	0	0	757
Qty	1	0	0	0	0	0	0		
20612 Surface Targets Dev.	0	888	1,037	1,132	1,217	1,237	1,259	Cont.	Cont.
Qty	0	1	1	0	0	0	0		

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project develops seaborne targets systems and their related target augmentation systems in support of air-to-surface and surface-to-surface weapons test and evaluation and fleet training.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$ 35) Continued Requirements Study Update. (Oct 96 - Sep 97)
- (U) (\$ 85) Continued NGTCS Integration with Command and Control Augmentation. (Oct 96 - Sep 97)
- (U) (\$ 180) Procured prototype off the shelf boat for testing and evaluating as a 40 knot high speed maneuverable target (HSMST). (Oct 96 - Mar 98)
- (U) (\$ 127) Continued Weapons System/Emitter, TAS Upgrade (Signature Evaluation and Control). (Oct 96 - Sep 97)
- (U) (\$ 100) Commenced development of Modeling and Simulation (M&S) applications. (Oct 96 - Sep 97)
- (U) (\$ 150) Completed Tow Target Avionics/Electronics development. Procure engineering and manufacturing high Speed Anti-Radiation Missile/Infra-Red (HARM/IR) platform for TAS integration and testing. (Oct 96- Sep 97)
- (U) (\$ 80) Commenced Command and Control System Upgrade Development. (Oct 96 - Mar 98)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604258N

PROJECT NUMBER: S0612/20612

PROGRAM ELEMENT TITLE: TARGET SYSTEMS DEVELOPMENT

PROJECT TITLE: SURFACE TARGETS DEVELOPMENT

2. (U) FY 1998 PLAN:

- (U) (\$ 70) Commence Requirements Study Update. (Oct 97 - Sep 98)
- (U) (\$ 135) Continue Weapon System/Emitter, TAS Upgrade. (Oct 97 - Sep 98)
- (U) (\$ 25) Continue Modeling and Simulation (M&S) applications development. (Oct 97 - Sep 98)
- (U) (\$ 438) Continue Command and Control System Upgrade Development. (Oct 97 - Sep 98)
- (U) (\$ 220) Commence development of enhanced HSMST to achieve a speed greater than 50 knots. (Oct 97 - Sep 98)

3. (U) FY 1999 PLAN:

- (U) (\$ 50) Continue Requirements Study Update. (Oct 98 - Sep 99)
- (U) (\$ 128) Continue Weapons System/Emitter, TAS Upgrade. (Oct 98 - Sep 99)
- (U) (\$ 87) Continue M&S analysis applications. (Oct 98 - Sep 99)
- (U) (\$ 572) Continue Command & Control System Upgrade development. (Oct 98 - Sep 99)
- (U) (\$ 200) Continue development of enhanced HSMST. (Oct 98 - Sep 99)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1997

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604258N PROJECT NUMBER: S0612/20612
PROGRAM ELEMENT TITLE: TARGET SYSTEMS DEVELOPMENT PROJECT TITLE: SURFACE TARGETS DEVELOPMENT

B. (U) PROGRAM CHANGE SUMMARY:	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998/1999 President's Budget:	2,616	944	1,042
(U) FY Appropriated Value:	2,734	944	0
(U) Adjustments to FY 1996/FY 1998 Appropriated Value/ FY 1998 President's Budget			
(a) Undistributed Reduction	-121	-56	-5
(b) SBIR Assessment	-56	0	0
(c) 40M MST Program cancellation	-1,800	0	0
(d) (U) FY 1999 OSD Budget Submit:	757	888	1,037

(U) CHANGE SUMMARY EXPLANATION

- (U) **Funding:** Reduction in FY 1997 results from SBIR Assessment, undistributed reductions and cancellation of the 40M Mobile Seaborne Target (MST) Program. FY 1998 an FY 1999 reductions are for undistributed reductions.
- (U) **Schedule:** Not applicable.
- (U) **Technical:** Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in thousands)

	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TO	TOTAL
	ACTUAL	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	ESTIMATE	COMPLETE	PROGRAM
OPN LINE 551800	-0-	2,218	1,954	1,947	1,941	1,068	2,601	Cont.	Cont.

(U) **RELATED RDT&E:** Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604759N

PROGRAM ELEMENT TITLE: Major T&E Investment

(U) COST (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W2195 T&E Investment	35,952	34,164*	17,281	48,482	49,705	53,583	54,694	CONT.	CONT.

*FY98 estimate reflects \$3M for East Coast Communications effort (W2447).

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project improves visibility of Test and Evaluation (T&E) resources across the Services for Major T&E investment funding. These funds correct major deficiencies, improve T&E capabilities, and increase T&E support effectiveness. The T&E Investment project provides support for the Naval Undersea Warfare Center Detachment Atlantic Undersea Test and Evaluation Center (NAVUNSEAWARCEN DET AUTEC), Andros Island, Bahamas; the Naval Air Warfare Center Weapons Division (NAVAIRWARCENWPNDIV), Point MUGU, CA and China Lake, CA; and the Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV), Patuxent River, MD.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: Budget Activity 6: This program is funded under Research, Development, Test and Evaluation management support because it supports the operations and installations required for general research and development.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$6,528) NAVUNSEAWARCEN DET AUTEC. Completed Countermeasure Resistant Tracking project. Continued Advanced Noise measurement project. Continued the Replace In-Water Hydrophones project. At the start of this program, the Tracking Hydrophones in the Tongue of the Ocean were 34 years old. The new in-water tracking technology will make this a cost-effective replacement approach. This program will avoid catastrophic failures of existing equipment, thereby preventing loss of in-water tracking capabilities. Cable will run to Site 1, reducing down range site activity, and reducing data communication from down range sites to command and controls at the main base. Completed requirements for new and existing technologies being installed on the range. Awarded system development contract. Continued Instrumentation Component Replacement (ICR) efforts.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604759N

PROJECT NUMBER: W2195

PROGRAM ELEMENT TITLE: Major T&E Investment

PROJECT TITLE: T&E Investment

- (U) (\$6,854) NAVAIRWARCENACDIV. Continued ICR efforts on existing flight test and ground test systems to maintain core capabilities. Continued upgrade of dynamic avionics measurement program. Continued environmental requirements for new and existing technologies. Completed the SAMSON feasibility program. Continued Modeling and Simulation for T&E. Continued upgrades to tracking and data acquisition and computation systems.
- (U) (\$14,719) NAVAIRWARCENWPNDIV. Continued to modernize core instrumentation capability. Completed upgrade of four (7,8,9, 10) Kineto tracking mounts with video track capability. Continued radar service life extension upgrades on two of seven FPS-16 radars, including mobilizing the second (upgraded in FY 1996) FPS-16 for San Nicolas Island. Completed second and continued third of five Land Range radar upgrades to control consoles and pedestals. Continued Electronic Combat Range (ECR) post test analysis and data products hardware and software upgrades. Continued upgrades to the Land Range control Center Integration and Processing System. Completed phase I of removal of analog microwave and range internet to Vandenberg Air Force Base (AFB). Initiated Air Surveillance Radar replacement for San Nicolas Island. Continued to improve and secure communication, cable plant, and Sea Range data processing capabilities. Continued communication and control and radio communication improvements. Completed replacement of flight termination antennas. Completed modernization upgrades to Integrated Target Control Systems (ITCS). Continued environmental requirements for new and existing technologies.
- (U) (\$4,625) Global Positioning System (GPS). Continued to procure and integrate the Tri-service Range Application Joint Program Office (RAJPO) GPS system equipment. Continued to provide engineering support during second year of Full Rate Production, leading to final full rate production equipment.
- (U) (\$3,226) Portable Tracking System (PTS). Completed system development; installation tests; and completed range integration.

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Exhibit R-2, RDT&E Budget Item, Justification
(Exhibit R-2, Page 2 of 7)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604759N

PROJECT NUMBER: W2195

PROGRAM ELEMENT TITLE: Major T&E Investment

PROJECT TITLE: T&E Investment

2. (U) FY 1998 PLAN:

- (U) (\$9,071) NAVUNSEAWARCEN DET AUTEK. Complete Advanced Noise Measurement project. Continue the Tracking Hydrophone Replacement project. Continue ICR program.
- (U) (\$17,297) NAVAIRWARCENWPNDIV. Continue to modernize core instrumentation capability. Initiate upgrade of eight (11,12,13,14,15,16,17,18) Kineto tracking mounts with video capability. Complete radar service life extension upgrades on first two of seven FPS-16 radars. Complete integration of GPS RAJPO equipment into Range systems. Continue development of GPS support capability. Complete third and initiate fourth of five Land Range radar upgrades to control, consoles and pedestals. Complete ECR post test analysis and data products hardware and software upgrades. Complete upgrades to the Land Range Control Center Integration and Processing System. Continue to improve and secure communication, cable plant, and Sea Range data processing capabilities. Continue Air Surveillance Radar replacement for San Nicolas Island. Complete final phase of analog microwave and range internet removal to Vandenberg AFB. Complete communication and control and radio communication improvements. Continue high rate telemetry data acquisition and processing upgrades. Complete environmental requirements for new and existing technologies.
- (U) (\$7,796) NAVAIRWARCENACDIV. Continue ICR efforts on existing flight test and ground test systems to maintain core capabilities. Continue upgrade of dynamic avionics measurement capabilities. Complete improvement to range command, control, tracking, and data acquisition and computation systems. Complete Modeling and Simulation for T&E. Complete environmental requirements for new and existing technologies. Provide engineering evaluation, hardware procurement, and system demonstration efforts for the East Coast Communications Network (ECCN).

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Exhibit R-2, RDT&E Budget Item, Justification
(Exhibit R-2, Page 3 of 7)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604759N

PROJECT NUMBER: W2195

PROGRAM ELEMENT TITLE: Major T&E Investment

PROJECT TITLE: T&E Investment

3. (U) FY 1999 PLAN:

- (U) (\$6,981) NAVUNSEAWARCEN DET AUTEC. Continue the Tracking Hydrophone Replacement project.
- (U) (\$6,654) NAVAIRWARCENWPNDIV. Continue to modernize core instrumentation capability. Complete upgrade of eight (11,12,13,14, 15,16,17, 18) Kineto tracking mounts with video capability. Complete Sea Range data processing capabilities. Continue high rate telemetry data acquisition and processing upgrades. Complete Land Range radar upgrades.
- (U) (\$3,646) NAVAIRWARCENACDIV. Complete upgrade of dynamic avionics measurement capabilities. continue ICR efforts on existing flight test and ground test systems.

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) 1998 President's Budget:	38,950	33,236	18,000
(U) Appropriated Value:	40,612		
(U) Adjustments from PRESBUDG:	-2,998	+928	+1,281
(U) FY 1999 President's Budget Submit:	35,952	34,164	17,281

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) Funding: FY 1997 reflect decreases of \$2,205 thousand for higher Navy priority, \$745 thousand for Small Business Innovative Research assessment, and \$48 thousand for economic adjustments, and FY 1998 reflects an increase of \$3,000 thousand for Congressional plus up for ECCN; offset by decreases of \$994 thousand for Congressional undistributed adjustments, \$998 thousand for programmatic adjustment and \$80 thousand for economic adjustment. FY 1999 reflect increases of \$1,484 thousand for Congressional undistributed adjustment and \$75 thousand for Navy Working Capital Fund (NWCFF) adjustment; offset by a decrease of \$278 thousand for inflation adjustment.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604759N

PROJECT NUMBER: W2195

PROGRAM ELEMENT TITLE: Major T&E Investment

PROJECT TITLE: T&E Investment

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0605807F: Test and Evaluation Support (Air Force)

(U) PE 0605864N: Test and Evaluation Support (Navy)

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item, Justification
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0604759N

PROJECT NUMBER: W2195

PROGRAM ELEMENT TITLE: Major T&E Investment

PROJECT TITLE: T&E Investment

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Advanced Weapon Noise Measurement	878	2,051	
b. Countermeasure Resistant Track	2,521		
c. Dynamic Avionics Measurements	2,420	1,065	2,000
d. ECR Data Processing Upgrade	1,290	1,545	
e. Environmental Investment (EIS)	3,785	1,067	
f. Analog Microwave	120	1,700	
g. GPS RAJPO	4,625	672	
h. Instrumentation Component Replacement	4,552	4,722	3,306
i. Portable Tracking System	3,226		
j. Range Telemetry System	1,238	2,313	1,397
k. Data Presentation Upgrade (Sea Range)	1,597	1,580	1,200
l. AN/FPS-16 Radars	100	1,280	
m. Tracking Hydrophone Replacement	2,000	6,172	6,981
n. Tracking Mounts	2,518	2,659	1,000
o. Modeling and Simulation in T&E	728	1,500	
p. East Coast Communications Network (ECCN)		3,000	
q. Various T&E Invest (less than \$1 million)	4,354	2,838	1,397
Total	35,952	34,164	17,281

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
Exhibit R-3, Page 6 of 7

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0604759N PROJECT NUMBER: W2195
 PROGRAM ELEMENT TITLE: Major T&E Investment PROJECT TITLE: T&E Investment

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Product Development										
AUTEC	WX	10/98	TBD	TBD	59,710	9,754	9,071	6,981	CONT.	CONT.
NAWCWD	WX	10/98	TBD	TBD	119,626	19,344	17,297	6,654	CONT.	CONT.
NAWCAD	WX	10/98	TBD	TBD	74,151	6,854	7,796	3,646	CONT.	CONT.

Support and Management: Not Applicable

Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Subtotal Production Development	253,487	35,952	34,164	17,281	CONT.	CONT.
Total	253,487	35,952	34,164	17,281	CONT.	CONT.

C. (U) FUNDING PROFILE: Not Applicable

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605152N

PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
L2097	Manpower, Personnel, and Training								
	238	232	287	292	298	303	309	CONT.	CONT.
M0106	Naval Medical Support Capability								
	90	94	117	118	121	123	126	CONT.	CONT.
R0132	CNO Program Analysis and Evaluation								
	953	198	304	308	315	321	326	CONT.	CONT.
R0133	National Academy of Sciences/Naval Studies Board								
	2,075	1,822	2,365	2,351	2,352	2,392	2,437	CONT.	CONT.
R0147	Operational Strategic and Tactical Effectiveness Analysis								
	341	303	464	470	481	489	499	CONT.	CONT.
R2040	Foreign Ship and Submarine Vulnerability Program								
	0	0	0	0	0	0	0	0	0
S2233	Naval Surface Warfare Studies								
	1,820	1,559	2,586	2,776	2,823	2,858	2,904	CONT.	CONT.
S2354	Expeditionary Warfare Studies								
	0	0	491	489	488	486	484	CONT.	CONT.
W2092	Naval Aviation Studies								
	2,367	1,916	3,518	3,041	3,064	3,100	3,152	CONT.	CONT.
TOTAL	7,884	6,124	10,132	9,845	9,942	10,072	10,237	CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides analytical support to the Secretary of the Navy and the Chief of Naval Operations as a basis for major policy, planning and acquisition program execution decisions. It supports research and development

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Exhibit R-2, RDT&E Budget Item Justification
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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605152N

PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy

strategy development and planning. It supports studies in the areas of manpower, personnel, training, and aviation. It also develops analytical tools for evaluating effectiveness of U.S. weapons against potential foreign threat ships and submarines.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

(U) COST: (Dollars in Thousands)

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: L2097
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Manpower, Personnel and Training
Support, Navy

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
L2097 Manpower, Personnel and Training	238	232	287	292	298	303	309	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Chief of Naval Personnel has an ongoing need for direct analyses of Navy manpower and personnel (MP) policies and program planning. This project provides an essential management tool to: (a) assess the effectiveness of existing MP policies and programs, (b) identify needs for new policies and programs, (c) determine the required manpower and training mix relative to changing demographic, societal and legislative/regulatory trends, and to evolving strategic and geopolitical factors, (d) study the impact of MP programs on Navy accession, retention, and performance, and (e) develop, validate and/or refine a broad range of MP forecasting models. The program permits Navy to more effectively utilize Research and Development expertise to respond to emerging MP problems.

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$83K) Conducted study to determine Time-on-Station metric for Permanent Change of Station (PCS) cost control.
- (U) (\$62K) Conducted Analysis of Aviation Career Incentive Pay (ACIP) to access continuation of bonus pay.
- (U) (\$65K) Conducted study to determine realistic accession quality requirements.
- (U) (\$28K) Conducted study to evaluate appropriate multiple Armed Services Vocational Aptitude Battery (ASVAB) cut-score requirements for "A" Schools.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: L2097
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Manpower, Personnel and Training
Support, Navy

2. (U) FY 1998 PLAN:

- (U) (\$76K) Support efforts to define officer and enlisted retention measures and reporting systems.
- (U) (\$87K) Update Sea-Shore Rotation Model (SSRM).
- (U) (\$69K) Study trends and progress in minority representation in officer and enlisted communities.

3. (U) FY 1999 PLAN:

- (U) (\$100K) Support studies requirements generated by the BUPERS move to Millington, TN - impact on personnel, communication, and organizational issues.
- (U) (\$100K) Continue to support studies directed at improving manning and manpower determination issues.
- (U) (\$87K) Support Quality of Life study requirements and the impact quality of life has on retention and readiness.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	240	252	291
(U) Adjustments from PRESBUDG:	-2	-20	-4
(U) FY 1999 President's Budget Submit:	238	232	287

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: L2097
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Manpower, Personnel and Training
Support, Navy

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 decrease of \$2 thousand due to Navy Working Capital Fund (NWCF) rate adjustments and SBIR assessments. FY 1998 funding adjustment of (-\$20) thousand is the net result an R&D and general reduction (-\$7) thousand, and economic assumption adjustment (-\$1) thousand and a PE leveled reduction to FY 1997 level. FY 1999 the decrease of \$4 thousand is the net result of an inflation adjustment for commercial purchases (-\$5) thousand and a correction of \$1 thousand to NWCF surcharge.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0603707N (Manpower, Personnel, and Training Advanced Technology Development)

(U) PE 0604703N (Manpower, Personnel, Training, Simulation and Human Factors)

(U) PE 0602234N (Materials, Electronics and Computer Technology)

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: M0106
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Medical Support Capability
Support, Navy

(U) COST (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0106 Naval Medical Support Capability	90	94	117	118	121	123	126	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides validated data to identify the root causes of problems and to optimize services associated with the health care delivery to Navy and Marine Corps personnel afloat and in contingency operations. This usually requires database and model development and statistical analyses of inter-related requirements or operational variables, and their impact on performance. The analysis of these variables requires a combination of medical/technical knowledge and operational perspectives.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$90K) Established a database from multiple sources and examine the relationships between completed suicides, gestures, and attempts, and organizational and environmental factors in the Navy and Marine Corps to identify risk factors and opportunities for intervention.

2. (U) FY 1998 PLAN:

(U) (\$94K) Establish a database from multiple sources and examine the relationship between alcohol use/abuse and accidents, emphasizing the cost incurred and man days lost.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: M0106
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Medical Support Capability
Support, Navy

3. (U) FY 1999 PLAN:

- (U) (\$117K) Examine the relationships between chemical, radiological and biological occupational exposures such as lead and organic solvent use and reproductive health among Navy and Marine Corps active-duty women.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	96	103	119
(U) Adjustments from PRESBUDG:	-6	-9	-2
(U) FY 1999 President's Budget Submit:	90	94	117

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 decrease of (-\$6) thousand reflects Congressional adjustments. FY 1998 decrease of (-\$9) thousand reflects Congressional reductions. FY 1999 decrease of (-\$2) thousand reflects economic adjustments.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: M0106
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Medical Support Capability
Support, Navy

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

R-1 Item No. 134

Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0132
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: CNO Program Analysis and Evaluation

(U) COST: (Dollars in Thousands)

Table with columns: PROJECT NUMBER & TITLE, FY 1997 ACTUAL, FY 1998 ESTIMATE, FY 1999 ESTIMATE, FY 2000 ESTIMATE, FY 2001 ESTIMATE, FY 2002 ESTIMATE, FY 2003 ESTIMATE, TO COMPLETE, TOTAL PROGRAM. Row: R0132 CNO Program Analysis and Evaluation.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides analytical support to the Chief of Naval Operations and the Secretary of the Navy in evaluation of overall balance within total Navy programs. This includes such tasks as: (a) evaluation of force capabilities and requirements; (b) analysis of effectiveness of systems under development; (c) Secretary of Defense directed independent cost and effectiveness analyses of major Navy programs; and (d) items of Congressional interest as they relate to Navy programs.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$209) Maintained the Aviation Readiness model and the Ships Resource-to-Readiness model.
(U) (\$26) Continued to conduct studies and analyses to support the Navy's Assessment process.
(U) (\$718) Funded Automated Acquisition Information Deskbook Program.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0132
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: CNO Program Analysis and Evaluation

2. (U) FY 1998 PLAN:
 - (U) (\$175) Maintain the Aviation Readiness model and the Ships Resource-to-Readiness model.
 - (U) (\$23) Continue to conduct studies and analyses to support the Navy's Assessment process.
3. (U) FY 1999 PLAN:
 - (U) (\$219) Maintain the Aviation Readiness model and the Ships Resource-to-Readiness model.
 - (U) (\$85) Continue to conduct studies and analyses to support the Navy's Assessment process.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	232	262	308
(U) Adjustments from FY 1998 PRESBUDG:	+721	-64	-4
(U) FY 1999 President's Budget Submit:	953	198	304

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to update to reflect actual execution (+721). FY 1998 adjustment is due to Congressional Undistributed reductions (-33), economic assumptions (-1) and to fund PE at FY 1997 level (-30). FY 1999 adjustment is due to Navy Working Capital Fund surcharge correction (+1) and inflation adjustment (-5).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0132
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: CNO Program Analysis and Evaluation
Support, Navy

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0605154N (Center for Naval Analysis)

(U) PE 0605873M (Marine Corps Program Wide Support)

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0133
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: National Academy of Sciences/Naval Studies Board

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0133 National Academy of Sciences/Naval Studies Board	2,075	1,822	2,365	2,351	2,352	2,392	2,437	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports the core program for the Naval Studies Board. As agreed upon between the Chief of Naval Operations (CNO) and the President of the National Academy of Sciences and with appropriate attention to the influence of the domestic economy, national objectives, social imperatives and anticipated military requirement, the Naval Studies Board will conduct and report upon surveys, investigations, and analyses in the field of scientific research and development applicable to the operation and function of the Navy. Reports consist of a briefing to the Assistant Secretary of the Navy (Research Development and Acquisition) (ASN (RD&A)) and the CNO and staff, and written technical reports.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$629) Continued research efforts and investigations in areas of interest to the Navy. Continue to support annual Navy authorized activities of importance, such as the Annual Classified Military Space Symposium and the Weinblum Memorial Lecture Series.
- (U) (\$1,446) Produced nine studies about the future of Naval Technology. Initiated two high payoff studies selected from proposals received from CNO and ASN(RD&A).

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0133
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: National Academy of Sciences/Naval Studies Board

2. (U) FY 1998 PLAN:

- (U) (\$649) Continue research efforts and investigations in areas of interest to the Navy. Continue to support annual Navy authorized activities of importance, such as the Annual Classified Military Space Symposium and the Weinblum Memorial Lecture Series.
- (U) (\$1,173) Produced investigations of significant importance to the Navy concerning technology of the future, selected from proposals received from CNO and ASN (RD&A).

3. (U) FY 1999 PLAN:

- (U) (\$647) Continue research efforts and investigations in areas of interest to the Navy. Continue to support annual Navy authorized activities of importance, such as the Annual Classified Military Space Symposium and the Weinblum Memorial Lecture Series.
- (U) (\$1,718) Produce investigations of significant importance to the Navy concerning technology of the future, selected from proposals received from CNO and ASN (RD&A)

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	2,134	2,376	2,397
(U) Adjustments from FY 1998 PRESBUDG:	-59	-554	-32
(U) FY 1999 President's Budget Submit:	2,075	1,822	2,365

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0133
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: National Academy of Sciences/Naval Studies Board

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-56), and revised economic assumptions (-3). FY 1998 reduction is due to Congressional Undistributed reductions (-307), revised economic assumptions (-5) and reduction to fund PE at FY 1997 level (-242). FY 1999 adjustment is due to NWCF surcharge correction (+10) and inflation adjustment (-42).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

R-1 Item No. 134

Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0147
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: Operational Strategic and Tactical Effectiveness Analysis

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0147 Operational Strategic and Tactical Effectiveness Analysis	341	303	464	470	481	489	499	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides the Chief of Naval Operations and the Secretary of the Navy direct analyses of Navy policy, strategy acquisition, and program planning in meeting the following objectives: (a) producing study results impacting upon important programs/issues; (b) identifying and evaluating policy and strategy alternatives and doctrine; and (c) evaluating the capabilities of programmed forces to accomplish missions assigned to the Navy. Deliverables consist of formal, structured documents containing or leading to conclusions and/or recommendations as well as the development and maintenance of databases and models. This project directly supports and is critical for conducting the Navy's joint mission assessments.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$321) Conducted reviews of the Capability Resources Allocation Display (CAPRAD) Database and perform econometric/statistical analyses on the impact of changes resulting from downsizing and programmatic changes. Also update and revalidate the Integrated Program Assessment System (IPAS) and other models in order to run these programs using revised allocation displays.
- (U) (\$20) Conducted studies and provide enhancements to Integrated Theater Engagement Model (ITEM), the primary tool for campaign analysis for Assessments.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0147
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: Operational Strategic and Tactical Effectiveness Analysis

- 2. (U) FY 1998 PLAN:
• (U) (\$275) Conduct reviews of the CAPRAD database and perform econometric/statistical analyses on the impact of changes resulting from downsizing and programmatic changes. Also update and revalidate the IPAS and other models in order to run these programs using revised allocation displays.
• (U) (\$28) Conduct studies and provide enhancements to ITEM, the primary tool for campaign analysis for Assessments.
3. (U) FY 1999 PLAN:
• (U) (\$354) Conduct reviews of the CAPRAD database and perform econometric/statistical analyses on the impact of changes resulting from downsizing and programmatic changes. Also update and revalidate the IPAS and other models in order to run these programs using revised allocation displays.
• (U) (\$110) Conduct studies and provide enhancements to ITEM, the primary tool for campaign analysis for Assessments.

B. (U) PROGRAM CHANGE SUMMARY:

Table with 4 columns: Description, FY 1997, FY 1998, FY 1999. Rows include: (U) FY 1998 President's Budget: 355, 403, 471; (U) Adjustments from FY 1998 PRESBUDG: -14, -100, -7; (U) FY 1999 President's Budget Submit: 341, 303, 464.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: R0147
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Operational Strategic and Tactical
Support, Navy Effectiveness Analysis

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-14). FY 1998 adjustment is due to Congressional Undistributed reductions (-51), economic assumptions (-1) and to fund PE at FY 1997 level (-48). FY 1999 adjustment is due to Navy Working Capital Fund surcharge correction (+1) and inflation adjustments (-8).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0605154N (Center for Naval Analyses)

(U) PE 0605873M (Marine Corps Program Wide Support)

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2233
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Surface Warfare Studies
Support, Navy

(U) COST: (Dollars in Thousands)

Table with columns: PROJECT NUMBER & TITLE, FY 1997 ACTUAL, FY 1998 ESTIMATE, FY 1999 ESTIMATE, FY 2000 ESTIMATE, FY 2001 ESTIMATE, FY 2002 ESTIMATE, FY 2003 ESTIMATE, TO COMPLETE, TOTAL PROGRAM. Row: S2233 Naval Surface Warfare Studies, 1,820, 1,559, 2,586, 2,776, 2,823, 2,858, 2,904, CONT., CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for analysis of the warfighting capability of Naval forces by examining specific selected numbers and mixes of surface combatants and other forces that are subjected to representative operational situations in a joint littoral environment. The U.S. strategic emphasis has shifted from global containment and warfighting to a global engagement and deference strategy with regional focus. As part of an overall effort at addressing future Naval force levels and capabilities, the Navy must assess the warfighting effectiveness of new operating concepts using different mixes of surface combatants operating in a littoral warfare environment and develop an investment strategy that supports the capabilities required. Required Operational Capabilities/Projected Operational Environment (ROC/POE) must be updated every two years or created for new ship classes. These ROC/POE's are vitally important in that mission requirements for ships drive equipment configurations, manning levels and associated shipboard accommodations, tailor ship and staff missions, capabilities, manning to new strategies, tactics, operational environments, and policies.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$1,820) Continued analyses of Naval Surface Warfare capabilities required for battle space dominance and power projection. Littoral warfare requirements will continue to shape the definition of surface ship capabilities. These studies were aimed at obtaining the required capabilities in an affordable and effective surface fleet. Revise ROC/POE instructions.

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Exhibit R-2, RDT&E Budget Item Justification (Exhibit R-2, page 18 of 32)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2233
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Surface Warfare Studies
Support, Navy

2. (U) FY 1998 PLAN:

- (U) (\$1,559) Continue analyses to identify force capabilities considering various force mixes. These studies will address the warfighting and national security policy and strategy requirements for effective, flexible and cost-efficient Naval Surface Warfare Forces, including the numbers and mixes of surface combatants and other forces that are subjected to representative operational situations in a joint littoral environment. Measures of Effectiveness will be used in characterizing Naval Surface Warfare capabilities for battle space dominance and for power projection. The results will be applied to campaign scenarios and operational situations to scope, focus and interpret the analyses. The results of these analyses will be applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces. Obligations were initiated in October 1997 and will complete September 1998.

3. (U) FY 1999 PLAN:

- (U) (\$2,586) Continue analyses to identify force capabilities considering various force mixes. These studies will address the warfighting and national security policy and strategy requirements for effective, flexible and cost-efficient Naval Surface Warfare Forces, including new operational concepts, the numbers and mixes of surface combatants and other forces that are subjected to representative operational situations in a joint littoral environment. Measures of Effectiveness will be used in characterizing Naval Surface Warfare capabilities for battle space dominance and for power projection. The results will be applied to campaign scenarios and operational situations to scope, focus and interpret the analyses. The results of these analyses will be applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces. Revise ROC/POE instructions. Obligations will initiate October 1998 and complete September 1999.

B. (U) PROGRAM CHANGE SUMMARY:

Table with 4 columns: Description, FY 1997, FY 1998, FY 1999. Rows include: (U) FY 1998 President's Budget: 1,606, 1,951, 2,185; (U) Adjustments from PRESBDG: +214, -392, +401; (U) FY 1999 President's Budget Submit: 1,820, 1,559, 2,586.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2233
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Surface Warfare Studies
Support, Navy

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 increase reflects 1997 minor reprogramming (+250K), SBIR transfer (-34K), and revised economic assumption (-2K). FY 1998 decrease reflects 1.5 percent general reduction (-24K), R&D general reduction (-20K), economic assumptions (-4K) and FY98 cut: fund PE to FY 1997 level (-344K). FY 1999 increases to fund additional Naval Surface Warfare (300K) and competition and outsourcing (144K) studies, NWCF Surcharge correction (2K), and NWCF rate changes (1K), a decrease for commercial purchase inflation adjustment (-46K).

(U) Schedule: Not applicable.
(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2233
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: Naval Surface Warfare Studies

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Capabilities Analysis	1,820	1,559	2,586
Total	1,820	1,559	2,586

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

<u>Contractor/</u> <u>Government</u> <u>Performing</u> <u>Activity</u>	<u>Contract</u> <u>Method/</u> <u>Fund Type</u> <u>Vehicle</u>	<u>Award/</u> <u>Oblig</u> <u>Date</u>	<u>Perform</u> <u>Activity</u> <u>EAC</u>	<u>Project</u> <u>Office</u> <u>EAC</u>	<u>FY 1996</u> <u>& Prior</u>	<u>FY 1997</u> <u>Budget</u>	<u>FY 1998</u> <u>Budget</u>	<u>FY 1999</u> <u>Program</u>	<u>FY 2000</u> <u>Budget</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Product Development											
Various	WR	Various			1180	231	205	222	246		
Various	RCP	Various			945	778	688	746	822		
Various	Competitive	Various			1564	811	666	1,618	1,708	CONT. CONT.	

Support and Management

Test and Evaluation

GOVERNMENT FURNISHED PROPERTY Not Applicable.

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605152N

PROJECT NUMBER: S2233

PROGRAM ELEMENT TITLE: Studies and Analysis
Support, Navy

PROJECT TITLE: Naval Surface Warfare Studies

	<u>FY 1996</u> <u>& Prior</u>	<u>FY 1997</u> <u>Budget</u>	<u>FY 1998</u> <u>Budget</u>	<u>FY 1999</u> <u>Budget</u>	<u>FY 2000</u> <u>Budget</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Subtotal Product Development	3,689	1,820	1,559	2,586	2,776	CONT.	CONT.
Subtotal Support and Management							
Subtotal Test and Evaluation							
Total Project	3,689	1,820	1,559	2,586	2,776	CONT.	CONT.

R-1 Item No. 134

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown

(Exhibit R-3, page 22 of 32)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2354
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Expeditionary Warfare Studies
Support, Navy

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 <u>ACTUAL</u>	FY 1998 <u>ESTIMATE</u>	FY 1999 <u>ESTIMATE</u>	FY 2000 <u>ESTIMATE</u>	FY 2001 <u>ESTIMATE</u>	FY 2002 <u>ESTIMATE</u>	FY 2003 <u>ESTIMATE</u>	TO <u>COMPLETE</u>	TOTAL <u>PROGRAM</u>
S2354 Expeditionary Warfare Studies	0	0	491	489	488	486	484	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for analysis of the warfighting capability of Expeditionary forces, with emphasis on the joint littoral environment, by examining specific selected numbers and mixes of amphibious combatants, mine warfare forces and other forces that are subjected to represent operational situations in a joint littoral environment. The U.S. strategic emphasis has shifted from global containment and warfighting to a global engagement and deference strategy with regional focus. As part of an overall effort at addressing future Naval force levels and capabilities, the Navy must assess the warfighting effectiveness of new operational concepts using different mixes of expeditionary combatants operating in a littoral warfare environment and develop an investment strategy that supports the capabilities required. Required Operational Capabilities/Projected Operational Environment (ROC/POE) must be updated every two years or created for new ship classes. These ROC/POE's are vitally important in that mission requirements for ships drive equipment configurations, manning levels and associated shipboard accommodations, tailor ship and staff missions, capabilities, manning to new strategies, tactics, operational environments, and policies.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) None. Dedicated Expeditionary Warfare Studies efforts begin in FY1999.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2354
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: Expeditionary Warfare Studies

2. (U) FY 1998 PLAN:

- (U) None. Dedicated Expeditionary Warfare Studies efforts begin in FY1999.

3. (U) FY 1999 PLAN:

- (U) (\$491) Initiates effort for dedicated analyses of Expeditionary Warfare Studies. Begins analysis to identify force capabilities considering various force mixes. These studies will address the warfighting and national security policy and strategy requirements for effective, flexible and cost-efficient Naval Expeditionary Warfare Forces, including the numbers and mixes of expeditionary combatants and other forces that are subjected to represent operational situations in a joint littoral environment. Measures of Effectiveness will be used in characterizing Naval Expeditionary Warfare capability for operational situations to scope, focus and interpret the analyses. The results of these analyses will be applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces. Revise ROC/POE instructions. Obligations will initiate October 1998 and complete September 1999.

B. (U) PROGRAM CHANGE SUMMARY:

Table with 4 columns: Description, FY 1997, FY 1998, FY 1999. Rows include: (U) FY 1998 President's Budget: 0, 0, 0; (U) Adjustments from PRESBUDG: 0, 0, +491; (U) FY 1999 President's Budget Submit: 0, 0, 491.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: S2354
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: Expeditionary Warfare Studies

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1999 increase to support new Expeditionary Warfare Studies project.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

R-1 Item No. 134

Exhibit R-2, RDT&E Budget Item Justification
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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: W2092
PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Aviation Studies
Support, Navy

(U) COST (Dollars in Thousands)

Table with 10 columns: PROJECT NUMBER & TITLE, FY 1997 ACTUAL, FY 1998 ESTIMATE, FY 1999 ESTIMATE, FY 2000 ESTIMATE, FY 2001 ESTIMATE, FY 2002 ESTIMATE, FY 2003 ESTIMATE, TO COMPLETE, TOTAL PROGRAM. Row 1: W2092 Naval Aviation Studies, 2,367, 1,916, 3,518, 3,041, 3,064, 3,100, 3,152, CONT., CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports studies over a wide range of naval aviation issues that support the ongoing Joint Strike Assessment (JSA) guidelines. Results provide a basis for recommendations to the Chief of Naval Operations concerning major policy, planning, and acquisition program decisions. This effort is a management initiative which will allow allocation of study resources in a timely manner according to priorities. This ongoing program will continue to leverage more detailed program specific analysis in order to gain insight in acquisition of various weapon systems and their impact on force structure, manning levels, operational readiness and Carrier Air Wing effectiveness. This program will also support various Analysis of Alternatives (AOA) Studies.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$150) Continued and expanded analyses of TACAIR and weapons effectiveness including tradeoffs of development and acquisition alternatives utilizing the Weapons and Tactical Analysis Center (WEPTAC) modeling and simulation (M&S) facility. Perform sensitivity analyses utilizing additional M&S tools as required.
(U) (\$185) Continued and completed phase one development of the flight hour program which supports the Naval Aviation Decision Training Support System (NATDSS).

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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605152N

PROJECT NUMBER: W2092

PROGRAM ELEMENT TITLE: Studies and Analysis
Support, Navy

PROJECT TITLE: Naval Aviation Studies

- (U) (\$430) Continued studies to support JSA issues for the current and follow-on cycle.
- (U) (\$1,112) Continued the Common Support Aircraft (CSA) study leading to a Milestone 0 decision.
- (U) (\$200) Continued and completed a Tactical Imaging Reconnaissance and Surveillance study to define the Navy's plan to meet various operational goals of collecting and disseminating imagery for the next 25 years.
- (U) (\$215) Initiated a Naval Aviation Master Plan that will provide the framework for an enduring commitment to acquire the assets needed to provide the operational capabilities required in the future in support of national policies and strategies.
- (U) (\$75) Provided support for the Lean Aircraft Initiative (LAI) effort to research and develop new industrial and manufacturing practices that could dramatically improve the affordability of U.S. military aircraft acquired in the future.

2. (U) FY 1998 PLAN:

- (U) (\$150) Continue analyses of TACAIR and weapons effectiveness, including tradeoffs of development and acquisition alternatives utilizing the WEPTAC M&S facility. Perform sensitivity analyses utilizing additional M&S tools as required.
- (U) (\$500) Begin the phase two effort on Naval Aviation Training Decision Support System (NATDSS). This effort will provide a prototype model which will facilitate analysis of the factors which influence the flight hour program.
- (U) (\$200) Continue studies to support JSA issues for the current and follow-on cycle.

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Exhibit R-2, RDT&E Budget Item Justification
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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605152N

PROJECT NUMBER: W2092

PROGRAM ELEMENT TITLE: Studies and Analysis
Support, Navy

PROJECT TITLE: Naval Aviation Studies

- (U) (\$500) Conduct the first phase of a two year effort to determine the mission requirements for a Multi-mission Maritime Aircraft (MMA) as a potentially common follow-on to the E-6A/B, EP-3, P-3, C-130 and C-9 aircraft. This study will lead to a Milestone 0 decision.
 - (U) (\$35) Initiate Carrier Air Wing (CVW) capabilities analysis effort. Evaluate the limiting factors and potential capacity in projecting combat capability from the CV.
 - (U) (\$200) Initiate a low level, multi-year effort to develop a consistent methodology to quantify current and estimate future vertical lift mission effectiveness. Evaluate H-60 series aircraft to conduct the Airborne Mine Countermeasures mission.
 - (U) (\$130) Complete CSA study leading to a Milestone 0 decision.
 - (U) (\$175) Conduct analyses of DON STOVAL, STOVAL survivability, technology and hardware issues for UAV marinization on carriers and L-class ships, cost benefit for land based SAR outsourcing, and aviator retention, utilizing Naval Postgraduate School facility.
 - (U) (\$10) Provide travel dollars for NAVAIR Expense Operating Budget (EOB) personnel.
 - (U) (\$16) Provide support for general aviation related AOAs and studies with NAVAIR and OPNAV.
3. (U) FY 1999 PLAN:
- (U) (\$600) Continue analyses of TACAIR and weapons effectiveness including tradeoffs of development and acquisition alternatives utilizing the WEPTAC M&S facility. Perform sensitivity analyses utilizing additional M&S tools as required.
- (U) (\$500) Expand TBMD Attack Operations analyses to include Cruise Missile Defensive tactics and operations.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, page 28 of 32)

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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: W2092
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy PROJECT TITLE: Naval Aviation Studies

- (U) (\$500) Continue studies to support JSA issues for the current and follow-on cycle.
(U) (\$1,000) Conduct the second phase of a two year effort to determine the mission requirements for a MMA as a potentially common follow-on to the E-6A/B, EP-3, P-3, C130 and C-9 aircraft. This study will lead to a Milestone 0 decision.
(U) (\$216) Continue a low level, multi-year effort to develop a consistent methodology to quantify current and estimate future vertical lift mission effectiveness.
(U) (\$600) Continue Carrier Air Wing (CVW) capabilities analysis effort. Evaluate the limiting factors and potential capacity in projecting combat capability from the CV.
(U) (\$102) Provide support for general aviation related AOAs and studies within NAVAIR and OPNAV.

B. (U) PROGRAM CHANGE SUMMARY:

Table with 4 columns: Description, FY 1997, FY 1998, FY 1999. Rows include FY 1998 President's Budget, Appropriated Value, Adjustments from Pres Budget, and FY 1999 President's Budget Submit.

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 increase reflects a \$405 thousand resource sponsor program adjustment for Lean Aircraft Initiative (LAI), Naval Aviation Master Plan, and CSA study, \$31 thousand decrease for SBIR assessment, \$20 thousand decrease for FFRDC, and \$2 thousand for revised economic adjustment. The FY 1998 decrease of \$1492 thousand is a result of Congressional reductions. The FY 1999 increase includes \$75 thousand for NWCF surcharge adjustment, offset by decreases of \$5 thousand for resource sponsor program adjustments and \$45 thousand for Congressional reductions.

(U) Schedule: Not applicable.
(U) Technical: Not applicable.

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DATE: February 1998

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605152N

PROJECT NUMBER: W2092

PROGRAM ELEMENT TITLE: Studies and Analysis
Support, Navy

PROJECT TITLE: Naval Aviation Studies

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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DATE: February 1998

FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: W2092
 PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Aviation Studies Support, Navy

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Systems Engineering	2,049	1,586	3,041
b. Government Engineering Support	278	320	457
c. Travel	40	10	20
 Total	 2,367	 1,916	 3,518

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

<u>Contractor/ Government Performing Activity</u>	<u>Contract Method/ Fund Type Vehicle</u>	<u>Award/ Oblig Date</u>	<u>Perform Activity EAC</u>	<u>Project Office EAC</u>	<u>Total FY 1996 & Prior</u>	<u>FY 1997 Budget</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Product Development										
All efforts totaling less than \$2M (aggregate total) MISC					3554	2,174	1,906	3,344	CONT.	CONT.
 Support and Management										
Travel					80	193	10	174	CONT.	CONT.

Test and Evaluation: Not applicable.

GOVERNMENT FURNISHED PROPERTY Not Applicable.

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Exhibit R-3, RDT&E Program Element/Project Change Summary
 (Exhibit R-3, page 31 of 32)

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DATE: February 1998

FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605152N PROJECT NUMBER: W2092
 PROGRAM ELEMENT TITLE: Studies and Analysis PROJECT TITLE: Naval Aviation Studies
 Support, Navy

	<u>FY 1996</u> <u>& Prior</u>	<u>FY 1997</u> <u>Budget</u>	<u>FY 1998</u> <u>Budget</u>	<u>FY 1999</u> <u>Budget</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Subtotal Product Development	3,554	2,174	1,906	3,344	CONT.	CONT.
Subtotal Support and Management	80	193	10	174	CONT.	CONT.
Subtotal Test and Evaluation	0	0	0	0	0	0
SBIR Assessment	0	0	0	0	0	0
Total Project	3,634	2,367	1,916	3,518	CONT.	CONT.

C. (U) FUNDING PROFILE

1. (U) FISCAL YEAR OBLIGATION/EXPENDITURE ACTUALS AND PLANS (BY QUARTER) (\$ in thousands): Not required.

C. 2. (U) FY 1997 OBLIGATIONS/EXPENDITURES (\$ in thousands): Not required.

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Exhibit R-3, RDT&E Program Element/Project Change Summary
 (Exhibit R-3, page 32 of 32)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605154N

PROGRAM ELEMENT TITLE: Center for Naval Analyses

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
C0031	Marine Corps Operations Analysis Group 4,133	3,576	4,408	4,431	4,463	4,554	4,695	CONT.	CONT.
R0148	Center for Naval Analyses, Navy 36,341	31,771	39,793	40,706	41,597	42,287	43,094	CONT.	CONT.
TOTAL	40,474	35,347	44,201	45,127	46,060	46,841	47,789	CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Center for Naval Analyses (CNA) is the Department of the Navy's only Federally Funded Research and Development Center. CNA provides independent, objective, and expert analyses based on its unique access to sensitive data and hands-on exposure to fleet operations gained through its world-wide field program. CNA's continuing program of research is primarily concentrated along 1 Marine Corps category and 10 Navy categories of study called product areas. These product areas are structured to enhance CNA's focus of research and analysis upon the major present and future needs and issues of the Navy and the Marine Corps. Because of rapid advances in technology, changes in the fleet, the increasing complexity of weapon systems, and reductions in manpower, force structure, and budgets, the Navy and Marine Corps have a greater need for analyses that are both sophisticated and timely. CNA is highly qualified to meet that need.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

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Budget Item Justification
(Exhibit R-2, page 1 of 7)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605154N

PROGRAM ELEMENT TITLE: Center for Naval Analyses

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
C0031	Marine Corps Operations Analysis Group								
	4,133	3,576	4,408	4,431	4,463	4,554	4,695	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports the Marine Corps portion of the Department of the Navy's (DON) Center for Naval Analyses (CNA) Research Program. It is managed as an element of the Marine Corps Studies System. This program provides independent and objective research and analysis, those appropriate for a Federally Funded Research and Development Center (FFRDC), in the focus areas of manpower utilization, logistics, programs and resources, and operational readiness. This program also provides CNA analysts for field exercise support and CNA field representative and scientific analyst support at major Marine Corps commands and departments.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$1,017) Executed high priority Marine Corps study and analysis projects outlined in the Marine Corps' portion of the approved DON FY 1997 Study and Analysis Plan for CNA. Additionally, supported three field exercises, two QDR support projects, two Quick Response studies, and one emerging study.
- (U) (\$1,543) Staffed six Field Representative and nine Scientific Analyst billets at major Marine Corps commands and departments.

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Budget Item Justification
(Exhibit R-2, page 2 of 7)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605154N

PROJECT NUMBER: C0031

PROGRAM ELEMENT TITLE: Center for Naval Analyses

PROJECT TITLE: Marine Corps Operations
Analysis Group

- (U) (\$1,573) Funded the continuation of eleven FY 1996 study and analysis projects.
2. (U) FY 1998 PLAN:
- (U) (\$1,620) Execute approved Marine Corps study and analysis projects outlined in the Marine Corps' portion of the approved DON FY 1998 Study and Analysis Plan for CNA. Additionally, support field exercises, Quick Response studies, and emerging study requirements.
 - (U) (\$1,598) Staff six Field Representative and nine Scientific Analyst billets at major Marine Corps commands and departments.
 - (U) (\$358) Fund the continuation of two FY 1997 study and analysis projects.
3. (U) FY 1999 PLAN:
- (U) (\$1,650) Execute the high priority Marine Corps study and analysis projects outlined in the Marine Corps' portion of the DON's FY 1999 Study and Analysis Plan for CNA. Also estimate that funded efforts will include supporting field exercises, Quick Response studies, and emerging study requirements.
 - (U) (\$1,678) Staff six Field Representative and nine Scientific Analyst billets at major Marine Corps commands and departments.
 - (U) (\$1,080) Fund the continuation of nine FY 1998 study and analysis projects.

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Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605154N

PROJECT NUMBER: C0031

PROGRAM ELEMENT TITLE: Center for Naval Analyses

PROJECT TITLE: Marine Corps Operations
Analysis Group

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	3,942	4,399	4,468
(U) Adjustment from FY 1998 PRESBUDG:	+191	-823	-60
(U) FY 1999 President's Budget Request:	4,133	3,576	4,408

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 funding increase reflects minor cost adjustment during program execution. FY 1998 adjustments are due to Congressional reductions. FY 1999 changes are due to minor affordability adjustments.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0605873M (Marine Corps Program Wide Support)

D. (U) SCHEDULE PROFILE: Not applicable.

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Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605154N

PROGRAM ELEMENT TITLE: Center for Naval Analyses

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0148 Center for Naval Analyses, Navy	36,341	31,771	39,793	40,706	41,597	42,287	43,094	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports the Navy's portion of the Center for Naval Analyses (CNA) research program. CNA's study and analysis capabilities for the Navy cover 10 categories, or product areas, of research, including: 1) Manpower, Medical and Training; 2) Policy and Operations; 3) Infrastructure and Readiness; 4) Space and Electronic Warfare/Command, Control, Communications, and Computers/Intelligence and Information and Modeling and Simulation; 5) Systems and Force Structure; 6) Research, Development and Acquisition; 7) Systems and Tactics; 8) Field Program; 9) Scientific Analyst Program; and 10) Quick Response Projects. CNA's analyses have resulted in substantial improvements in force structure, fleet effectiveness, and significant cost avoidance.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$36,341) Addressed issues of major importance to Navy leadership in the above research areas. CNA's research program was continually updated to support the Navy efficiently and effectively. Support for the CNA field program, which assigns analysts to over 40 locations around the world and at sea, continued to comprise

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Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605154N PROJECT NUMBER: R0148
PROGRAM ELEMENT TITLE: Center for Naval Analyses PROJECT TITLE: Center for Naval Analyses,
Navy

approximately 22% of the funding. The program also emphasized the Policy and Operations and System and Force Structure product areas.

2. (U) FY 1998 PLAN:

- (U) (\$31,771) Address issues of major importance to Navy leadership in the above research areas. CNA's research program will be continually updated to support the Navy efficiently and effectively. Support for the CNA field program, which assigns analysts to over 40 locations around the world and at sea, will continue to comprise approximately 22% of the funding. Additionally, emphasis will be in the Policy and Operations and System and Force Structure product areas.

3. (U) FY 1999 PLAN:

- (U) (\$39,793) Address issues of major importance to Navy leadership in the above research areas. CNA's research program will be continually updated to support the Navy efficiently and effectively. Support for the CNA field program, which assigns analysts to over 40 locations around the world and at sea, will continue to comprise approximately 22% of the funding. Additionally, emphasis will be in the Policy and Operations and System and Force Structure product areas.

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DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605154N PROJECT NUMBER: R0148
PROGRAM ELEMENT TITLE: Center for Naval Analyses PROJECT TITLE: Center for Naval Analyses,
Navy

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	34,666	39,077	40,326
(U) Appropriated Value:	-	39,077	-
(U) Adjustment from FY 1998 PRESBUDG:	-44	-7,306	-533
(U) FY 1999 President's Budget Request:	36,341	31,771	39,793

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to revised economic assumptions (-44). FY 1998 adjustment is due to Congressional Undistributed reductions (-7,220) and economic assumptions (-86). FY 1999 adjustment is due to Navy Working Capital Fund surcharge correction (+168) and an inflation adjustment (-701).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0605152N (Studies and Analysis Support)

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605155N
PROGRAM ELEMENT TITLE: Fleet Tactical Development and
Evaluation

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0151	Intertype Tactical Development and Evaluation								
	2,821	2,650	2,748	2,823	2,892	2,957	3,032	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element supports all naval warfare task areas and provides technical and analytical support to the fleet operating forces to develop and evaluate tactics for newly evolving force structures, new and existing weapon system employment, and changing threat scenarios to improve and measure force readiness.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$59) Developed submarine coordinated localization/reconnaissance/attack tactics in the littoral.
- (U) (\$70) Continued to develop surface to air missile effectiveness.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605155N

PROJECT NUMBER: R0151

PROGRAM ELEMENT TITLE: Fleet Tactical Development and
Evaluation

PROJECT TITLE: Intertype Tactical
Development and Evaluation

- (U) (\$570) Continued to develop anti-diesel tactics.
 - (U) (\$171) Developed Amphibious Replacement Group tactics/amphibious operations.
 - (U) (\$655) Continued to develop Mine Counter Measures tactics.
 - (U) (\$220) Continued to develop integrated hardkill/electronic warfare tactics.
 - (U) (\$146) Developed combat air support in dynamic ground environment tactics.
 - (U) (\$57) Evaluated tactics for Global Positioning System delivery of MK-80 series weapons.
 - (U) (\$20) Completed development of P-3C Maverick employment tactics.
 - (U) (\$84) Developed SH-60B AAS-44 Forward Looking Infrared tactics.
 - (U) (\$225) Continued to develop helicopter expendable tactics.
 - (U) (\$51) Developed Multi-Carrier Group tactical procedures.
 - (U) (\$250) Developed tactics for countering Anti-Ship Cruise Missile in the littoral.
 - (U) (\$88) Developed TOMAHAWK Afloat Planning System.
 - (U) (\$68) Initiated development of EA-6B HARM tactics.
 - (U) (\$70) Initiated development of F-24 LANTERN HARM tactics.
 - (U) (\$17) Continued to provide management support services.
2. (U) FY 1998 PLAN:
- (U) (\$75) Development of HARPOON Tactics.
 - (U) (\$135) Development of AIR Undersea Warfare Tactics with Low Frequency Active/Integrated Underwater Surveillance System.
 - (U) (\$190) Development of Submarine Localization Tactics.
 - (U) (\$18) Complete development of EA-6B HARM Tactics.
 - (U) (\$11) Complete development of Lantern Tactics.
 - (U) (\$86) Development of SLAM Tactics.
 - (U) (\$430) Development of Battle Group (BG) Stationing Procedures.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605155N

PROJECT NUMBER: R0151

PROGRAM ELEMENT TITLE: Fleet Tactical Development and
Evaluation

PROJECT TITLE: Intertype Tactical
Development and Evaluation

- (U) (\$207) Development of Mine Counter Measures Vehicle.
- (U) (\$94) Development of ES-31 Targeting Tactics.
- (U) (\$190) Development of MK-48 ADCAP Tactics.
- (U) (\$95) Development of Anti-Terrorism Tactics.
- (U) (\$190) Continue development of Submarine/Maritime Patrol Aircraft/Surface Tactics.
- (U) (\$135) Development of BG Undersea Warfare Procedures.
- (U) (\$98) Development of MK-103 Airborne Mine Counter Measures Tactics.
- (U) (\$99) Development of P-3C Joint Mission Areas Tactics.
- (U) (\$300) Development of Torpedo Evasion Tactics.
- (U) (\$105) Development of Explosives Ordnance Disposal Tactics.
- (U) (\$55) Development of Helicopter vs. Surface Tactics.
- (U) (\$137) Develop Tactics for Specific Electronic Intelligence for Combat Identification.

3. (U) FY 1999 PLAN:

- (U) (\$485) Continue development of expeditionary warfare tactics against emerging threats, adapting blue water tactics to near land scenarios.
- (U) (\$485) Continue development/evaluation of command and control warfare/command, control, communications, computers and intelligence.
- (U) (\$485) Continue development/evaluation of joint combined forces tactical procedures.
- (U) (\$485) Continue development/evaluation of mine countermeasures tactics.
- (U) (\$350) Continue development/evaluation of combat identification tactics.
- (U) (\$355) Continue development/evaluation of air defense/Cooperative Engagement tactics.
- (U) (\$103) Continue development/evaluation of helicopter tactics.

B. (U) PROGRAM CHANGE SUMMARY:

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605155N PROJECT NUMBER: R0151
PROGRAM ELEMENT TITLE: Fleet Tactical Development and Evaluation PROJECT TITLE: Intertype Tactical Development and Evaluation

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	2,861	2,747	3,654
(U) Appropriated Value:	-	2,747	-
(U) Adjustments from FY 1998 PRESBUDG:	-40	-97	-906
(U) FY 1999 President's Budget Request:	2,821	2,650	2,748

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-33), revised economic assumptions (-4), and update to reflect actual execution (-3). FY 1998 adjustment is due to Congressional Undistributed reductions (-91) and economic assumptions (-6). FY 1999 adjustment is due to Navy Working Capital Fund (NWCF) surcharge correction (-10), other NWCF adjustments (-7), other minor adjustments (-40) and reduction to maintain funding at FY 1998 levels (-849).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0603711N (Fleet Tactical Development)

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605155N

PROJECT NUMBER: R0151

PROGRAM ELEMENT TITLE: Fleet Tactical Development and
Evaluation

PROJECT TITLE: Intertype Tactical
Development and Evaluation

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROGRAM ELEMENT TITLE: Technical Information Services

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0835	Technical Information Services								
	1,736	740	946	967	964	953	946	CONT.	CONT.
R2296	Federal Laboratory Consortium								
	235	0	0	0	0	0	0	CONT.	CONT.
R2322	Acquisition Center of Excellence								
	0	2,426	7,567	0	0	0	0	0	15,700
S2257	Advanced Technical Information Systems								
	2,797	0	0	0	0	0	0	0	2,800
Total	4,768	3,166	8,513	967	964	953	946	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Technical Information Services provides support to achieve development affordability of Navy systems and reduction of life-cycle costs through the facilitation of advanced technology associations between U.S. industry and the Navy. The goals for project R0835 are met through the following:

- (U) Navy leverage of the industry independent research and development science and technology base by facilitation of voluntary Technical Information Meetings between Navy, DOD component, and the private sector.
- (U) Support for the Navy Acquisition Research and Development Center to provide the private sector with information on Navy research and development requirements and advanced acquisition information.
- (U) Transfer of appropriate Navy-developed innovative concepts and inventions to the private sector for purposes of commercialization (Public Law 96-480, Federal Technology Transfer Act of 1986) through Cooperative Research and Development Agreements and Cooperative Agreements through Offices of Research and Technology Applications.
- (U) Promotion of advanced information acquisition and distribution techniques (in conjunction with the Defense Technical Information Center) to disseminate research, development, and technology transfer efforts of Navy components, including the networking of Navy components' technology transfer databases (Scientific and Technical Information Program).

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Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROGRAM ELEMENT TITLE: Technical Information Services

- (U) Support for controlled access to, and exchange of, scientific and technical information by Navy/DOD components and present/potential contractors (Navy Potential Contractor Program).

(U) This program also provides the DON interface to Director, Defense Research and Engineering, Office of Technology Transition for matters relating to policy and DOD reporting requirements for technology transfer.

(U) The Acquisition Center of Excellence program conducts the enabling research and development of the methods, processes and techniques that form the foundations for developing the databases, infrastructure, and tools that comprise the Simulation Based Acquisition (SBA)enterprise. The goals for project R2322 are met through the following:

- (U) Development of the SBA enterprise through the system engineering and test and evaluation required to achieve interoperability and focus of the legacy developments and new developments in databases, infrastructure, and tools.
- (U) Development of the advanced tools that can be used for evaluating alternate business strategies so that program managers may readily make informed and timely business strategy decisions.
- (U) Development of the methods, techniques, and the advanced tools associated with navigation, access, retrieval, and storage of diverse data types that exist in very large distributed databases so that program managers can rapidly find, develop, and assess information critical to program comprehension and decision making.
- (U) Development of the methods, techniques, and the advanced systems associated with the effects of information visualization, presentation and interaction in a learning environment for the purpose of enhancing the processes for evaluating, transforming, interacting, and communicating that information to a broad set of users.

(U) The Federal Laboratory Consortium (FLC) for Technology Transfer is an organization of Federal Research and Development Laboratories and Centers chartered by the "Stevenson-Wydler Technology Innovation Act of 1980" as amended by Public Law 99-502, the "Federal Technology Transfer Act of 1986." It was established to identify and mobilize the necessary resources to provide the environment, the organization, and the necessary technology transfer mechanisms required to facilitate the fullest possible use of federally sponsored R&D results by both public and private sector potential users. Funding of the FLC is a recurring requirement with the yearly funding level based on an amount equal to eight thousandths of one percent (0.008%) of each Federal department/agency Research and Development (R&D) budget.

(U) In FY 1997 this program element funds the Advanced Technical Information Systems (ATIS) project. ATIS is a component of the U.S. Navy's approach for implementing Computer-Aided Acquisition and Logistics Support technology and standards.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROGRAM ELEMENT TITLE: Technical Information Services

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations required for general research and development use.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROGRAM ELEMENT TITLE: Technical Information Services

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0835	Technical Information Services								
	1,736	740	946	967	964	953	946	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides support to achieve development affordability of Navy systems and reduction of life-cycle costs through the facilitation of advanced technology associations between U.S. industry and the Navy. These goals are met through the following:

- (U) Navy leverage of the industry independent research and development science and technology base by facilitation of voluntary Technical Information Meetings between Navy, DOD components, and the private sector.
- (U) Support for the Navy Acquisition Research and Development Center (NARDIC) to provide the private sector with information on Navy research and development requirements and advanced acquisition information.
- (U) Transfer of appropriate Navy-developed innovative concepts and inventions to the private sector for purposes of commercialization (Public Law 96-480, Federal Technology Transfer Act of 1986) through Cooperative Research and Development Agreements and Cooperative Agreements (CRADAs) through Offices of Research and Technology Applications.
- (U) Promotion of advanced information acquisition and distribution techniques (in conjunction with the Defense Technical Information Center (DTIC)) to disseminate research, development, and technology transfer efforts of Navy

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605804N PROJECT NUMBER: R0835
PROGRAM ELEMENT TITLE: Technical Information PROJECT TITLE: Technical Information Services

components, including the networking of Navy components' technology transfer databases (Scientific and Technical Information Program (STIP)).

- (U) Support for controlled access to, and exchange of, scientific and technical information by Navy/DOD components and present/potential contractors (Navy Potential Contractor Program (NPCP)). This program also provides the DON interface to Director, Defense Research and Engineering (DDR&E), Office of Technology Transition for matters relating to policy and DOD reporting requirements for technology transfer.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$1,736) Continued coordination efforts with Systems Commands, Program Executive Offices, Direct Reporting Program Managers, and Navy laboratories and warfare centers to leverage industry research and development efforts to meet Navy performance/affordability needs and promote submission of technical data by the private sector to the DTIC CD-ROM in order to help integrate defense production with the commercial industrial base. Supported the NARDIC as the primary outreach resource to the private sector. Using the CRADA and Cooperative Agreement mechanisms, continued to create industry partnerships that allow technology insertion through the use of Integrated Process Product Development. Put into operation the networked technology transfer and NPCP database capability at the laboratory, the Office of Naval Research, and DDR&E levels. Continued to improve the STIP database both in content and in level of usage by Government and/or Government-sponsored components, as part of the drive to reduce R&D costs of the Navy. Complete the in-depth study of cost effectiveness of the Navy technology transfer program.

2. (U) FY 1998 PLAN:

- (U) (\$740) Maintain coordination efforts with Systems Commands, Program Executive Offices, Direct Reporting Program Managers, and Navy laboratories and warfare centers to leverage industry research and development efforts to meet Navy performance/affordability needs and encourage submission of technical data by the private sector to the DTIC CD-ROM in order to help integrate defense production with the commercial industrial base. Support the

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

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BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605804N PROJECT NUMBER: R0835
PROGRAM ELEMENT TITLE: Technical Information PROJECT TITLE: Technical Information Services

NARDIC as the primary outreach resource to the private sector. Complete development of the networked technology transfer database capability at the laboratory, the ONR, and DDR&E levels.

3. (U) FY 1999 PLAN:

- (U) (\$946) Maintain coordination efforts with Systems Commands, Program Executive Offices, Direct Reporting Program Managers, and Navy laboratories and warfare centers to leverage industry research and development effort to meet Navy performance/affordability needs and encourage submission of technical data by the private sector to the DTIC CD-ROM in order to help integrate defense production with the commercial industrial base. Support the NARDIC as the primary outreach resource to the private sector. Investigate incorporation of NPCP information into networked tech transfer database.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	1,656	763	983
(U) Appropriated Value:	-	763	-
(U) Adjustments from FY 1998 PRESBUDG:	+80	-23	-37
(U) FY 1999 President's Budget Request:	1,736	740	946

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-14), revised economic assumptions (-2), and update to reflect actual execution (+96). FY 1998 adjustment is due to Congressional Undistributed reductions (-21) and economic adjustments (-2). FY 1999 adjustment is due to NWCF surcharge correction (-12), other NWCF adjustments (-8) and an inflation adjustment (-17).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROJECT NUMBER: R0835

PROGRAM ELEMENT TITLE: Technical Information

PROJECT TITLE: Technical Information Services

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROGRAM ELEMENT TITLE: Technical Information

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R2322	0*	2,426	7,567	0	0	0	0	0	9,993

* Congress appropriated \$.5 million in FY 1997 for the ACE. These funds are currently budgeted in the Manufacturing Technology program (PE 0708011N, project R2322).

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program conducts the enabling research and development of the methods, processes and techniques that form the foundations for developing the databases, infrastructure, and tools that comprise the Simulation Based Acquisition (SBA) enterprise. These development activities will be tested and deployed in the Acquisition Center of Excellence (ACE) and the associated geographically dispersed nodes on the Defense and National Information Infrastructures. The SBA enterprise will allow program managers to reduce acquisition cycle time and reduce total life cycle costs by providing automation in support of developing and assessing alternative acquisition strategies as well as developing, deploying, and maintaining the product. The SBA enterprise will support Integrated Product Teams (IPTs) and concurrent processes embodied in Integrated Product and Process Development (IPPD) approaches. Additionally these activities will enable essential coalitions with other DoD components and the industrial base. These coalitions will focus the total technology development, enhance industrial partnering, and enable the desired technology transfers. These goals will be met through the following Thrusts:

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROJECT NUMBER: R2322

PROGRAM ELEMENT TITLE: Technical Information

PROJECT TITLE: Acquisition Center of Excellence

- (U) Thrust 1: Development of the SBA enterprise through the system engineering and test and evaluation required to achieve interoperability and focus of the legacy developments and new developments in databases, infrastructure, and tools.
 - (U) Develop and evaluate structured methods, smart product model structures, and concurrent processes which allow interoperability among legacy models and databases as well as advanced models and simulations.
 - (U) Define and develop system specifications for development and evaluation of the SBA enterprise.
 - (U) Develop these SBA techniques and evaluate their benefits through their use on pilot projects.
 - (U) Analyze and evaluate advanced acquisition techniques to determine broad-based applicability and potential payoff.
- (U) Thrust 2: Development of the advanced tools that can be used for evaluating alternate business strategies so that program managers may readily make informed and timely business strategy decisions.
 - (U) Develop tools and methods to enable dynamic business models which allow rapid evaluation of and insight to the critical drivers of an acquisition program. These tools will provide the assessment of cycle time drivers and the understanding necessary to conduct alternate process mappings.
 - (U) Investigate and develop business strategy gaming techniques as they apply to evaluating process cost and risk tradeoffs among alternative acquisition paths.
 - (U) Investigate and develop dynamic system models based on Cost As an Independent Variable (CAIV) techniques allowing acquisition program managers to rapidly assess the impact of technical designs and programmatic decisions as related to all aspects of lifecycle costs.
 - (U) Design, develop, and evaluate the tool set and environment necessary to allow acquisition program managers to rapidly conduct IPPD acquisitions with IPTs.
- (U) Thrust 3: Development of the methods, techniques, and the advanced tools associated with navigation, access, retrieval, and storage of diverse data types that exist in very large distributed databases so that program managers can rapidly find, develop, and assess information critical to program comprehension and decision making.
 - (U) Develop and evaluate the methods and advanced tools to allow rapid navigation, without information overload, through diverse subject matter databases within the Navy, DoD, academia and other data sources.
 - (U) Develop methods and analyze process/performance metrics for real-time access of multimedia data for acquisition program managers.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROJECT NUMBER: R2322

PROGRAM ELEMENT TITLE: Technical Information

PROJECT TITLE: Acquisition Center of Excellence

- (U) Thrust 4: Development of the methods, techniques, and the advanced systems associated with the effects of information visualization, presentation and interaction in a learning environment for the purpose of enhancing the processes for evaluating, transforming, interacting, and communicating that information to a broad set of users.
- (U) Design, develop, test and evaluate methods and processes which will lead to a cultural transition from a transactional management approach to a transformational approach for future acquisition program execution.
 - (U) Develop and apply cognitive immersion techniques to provide a visual enterprise management system capable of manifesting the full data set (information and implications) to program managers to facilitate rapid understanding, communication, and decision making.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS: Not applicable. Funds executed in the Manufacturing Technology program (PE 0708011N, project R2322).
2. (U) FY 1998 PLAN:
 - (U) (\$ 2,426)
 - (U) Conduct system engineering of the SBA enterprise.
 - (U) Investigate required structured methods, smart product model structures, and concurrent processes in conjunction with the efforts in DARPA, ONR, DMSO, DoNMSO, DISA, and industry.
 - (U) Initiate the draft system specifications for development and evaluation of the SBA enterprise.
 - (U) Conduct investigations of critical component technologies and tools and test and evaluate as appropriate.
 - (U) Begin the analysis and evaluations of the SBA advanced acquisition techniques in a total acquisition sense to determine broad-based applicability and potential payoff for cost and cycle time reductions.
 - (U) Initiate the development of the first generation dynamic system model(s) based on CAIV techniques.
 - (U) Complete development of the ACE information repository and the associated connections to the other DoD/DoN databases.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605804N PROJECT NUMBER: R2322
PROGRAM ELEMENT TITLE: Technical Information PROJECT TITLE: Acquisition Center of Excellence

- (U) Develop process/performance metrics for real time access of multimedia data for acquisition program managers.
- (U) Define and execute acquisition exercises with program managers.
- (U) Establish and maintain a Program Manager's Assistance Group (PMAG) for any program manager requiring support.

3. (U) FY 1999 PLAN:

(U) (\$ 7,567)

- (U) Continue development of the SBA enterprise.
- (U) Continue development of the required structured methods, smart product model structures, and concurrent processes in conjunction with the efforts in DARPA, ONR, DMSO, DoNMSO, DISA, and industry.
- (U) Continue the final system specifications for development and evaluation of the SBA enterprise.
- (U) Continue development of component level experiments addressing the performance drivers associated with SBA techniques.
- (U) Continue investigations of critical component technologies and tools and test and evaluate as appropriate.
- (U) Continue development of metrics, experiments, and application of the SBA techniques to pilot projects.
- (U) Analyze and evaluate the SBA advanced acquisition techniques in a total acquisition sense to determine broad-based applicability and potential payoff for cost and cycle time reductions.
- (U) Develop a database that documents the results, metrics, "world-class" strategies, "world-class" practices, and lessons learned.
- (U) Provide the database to the supporting electronic repository.
- (U) Continue development and testing of the second generation dynamic business models which allow rapid evaluation of and insight to the critical drivers of the acquisition programs.
- (U) Develop process/performance metrics for real time access, retrieval, interaction, and communication required for acquisition program manager processes.
- (U) Continue to define and execute acquisition exercises with program managers.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROJECT NUMBER: R2322

PROGRAM ELEMENT TITLE: Technical Information

PROJECT TITLE: Acquisition Center of Excellence

- (U) Continue to provide PMAG for any program manager requiring support.
- (U) Provide IPPD/IPT and SBA enterprise training will to the program managers.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605804N PROJECT NUMBER: R2322
PROGRAM ELEMENT TITLE: Technical Information PROJECT TITLE: Acquisition Center of Excellence

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	0	8,000	7,967
(U) Appropriated Value:	-	2,500	-
(U) Adjustments from FY 1998 PRESBUDG:	0	-5,574	-400
(U) FY 1999 President's Budget Request:	0	2,426	7,567

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1998 adjustment is due to undistributed reductions (-68), economic assumptions (-6) and Congressional reduction (-5,500). FY 1999 adjustment is due to Navy Working Capital Fund surcharge correction (+33), a delay in the stand up of the Acquisition Center for Excellence (-300), and an inflation adjustment (-133).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605804N

PROJECT NUMBER: R2322

PROGRAM ELEMENT TITLE: Technical Information

PROJECT TITLE: Acquisition Center of Excellence

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROGRAM ELEMENT TITLE: Management, Technical
International Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY1997 ACTUAL	FY1998 ESTIMATE	FY1999 ESTIMATE	FY2000 ESTIMATE	FY2001 ESTIMATE	FY2002 ESTIMATE	FY2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0149 International Cooperative RDT&E	1,766	1,652	2,157	2,251	2,297	2,344	2,390	CONT.	CONT.
R1767 Naval War College/Center for Naval Warfare Studies	1,523	1,392	2,312	2,347	2,383	2,424	2,469	CONT.	CONT.
X2221 Assessment Program	11,729	10,920	12,800	13,112	13,415	13,653	13,357	CONT.	CONT.
X2222 Naval Modeling and Simulation	3,967	3,979	8,375	10,567	11,139	10,404	10,548	CONT.	CONT.
W2347 Test and Evaluation Modeling and Simulation			3,046	1,463	1,465	1,458	1,453	CONT.	CONT.
TOTAL	18,985	17,943	28,690	29,740	30,699	30,283	30,217	CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides management and technical support for several national and international projects.

(U) Project R0149 provides program management, execution, and support to implement a broad range of cooperative naval research and development (R&D) initiatives with allied and friendly nations. Potential cooperative programs are pursued to fulfill established operational requirements, enhance U.S./allied interoperability and standardization, obtain unique foreign technologies, and reduce U.S. developmental and production costs. Such efforts have resulted in:

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROGRAM ELEMENT TITLE: Management, Technical
International Support

- (U) Development and negotiation of approximately 25 international RDT&E Memoranda of Understanding with allied and friendly nations.
- (U) Management of over 300 information exchange agreements.
- (U) Participation in armaments cooperation forums including the Conference of NATO Armaments Directors groups (e.g., the NATO Naval Armaments Group), Senior National Representative (SNR) consultation, and the Technical Cooperative Program.
- (U) Collaboration and participation in joint research initiatives with NATO SACLANTCEN.

(U) Project R1767 supports the Naval War College (NWC) in formulating and developing strategy and campaign alternatives. Under this project, the NWC provides continuing support to the Chief of Naval Operations Strategic Studies Group, the Center for Naval Warfare Studies, and other CNO, UNIFIED, and Fleet CINC projects in the area of multi-national cooperation and command, control, communications and intelligence.

(U) Project X2221 provides analytical and management support for the Planning and Programming process. This project supports the development of annual Joint Mission Area/Support Area/Investment Balance Review/Joint Warfighting Capability assessments which provide the analytical underpinnings and basis for programmatic decisions made by the Navy's top leadership.

(U) Project X2222 provides the overarching policy, coordination and technical support for Naval modeling focus, coordination and oversight. It enhances development and execution of a coordinated Naval M&S program, including distributed simulation tool development, M&S incorporation with C4I systems and simulation. This project responds to Congressional guidance to improve modeling and simulation embedded training systems, and an orderly process of model Verification, Validation and Accreditation required by current directives.

(U) Project W2347 enhances the Test and Evaluation (T&E) efforts of the Navy by providing policy, coordination, and technical support for the Modeling and Simulation (M&S) program. The mission is to promote and standardize modeling and simulation for interoperability and re-use within and between programs and across the Research Development Test and Evaluation community. This project also provides funds to incrementally establish the Joint Synthetic Test and Evaluation Battlespace (JSTEB) Joint Operational Requirements document. Test and Evaluation Modeling and Simulation (TEMS) is required to reduce the cost,

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DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROGRAM ELEMENT TITLE: Management, Technical
International Support

schedule, and risk of acquisition programs by supporting the early integration of M&S capabilities into the T&E process.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N
PROGRAM ELEMENT TITLE: Management, Technical
International Support

DATE: February 1998
PROJECT NUMBER: R0149
PROJECT TITLE: International
Cooperative RDT&E

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0149	International 1,766	Cooperative 1,652	RDT&E 2,157		2,251	2,297	2,344	2,390	CONT. CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides program management, execution, and support to implement a broad range of cooperative naval research and development (R&D) initiatives with allied and friendly nations. Potential cooperative programs are pursued to fulfill established operational requirements, enhance U.S./allied interoperability and standardization, obtain unique foreign technologies, and reduce U.S. developmental and production costs. Such efforts result in:

- (U) Development and negotiation of approximately 25 International RDT&E Agreements with allied and friendly nations.
- (U) Execution of over 300 information exchange annexes.
- (U) Participation in armaments cooperation forums including the Conference of NATO Armaments Directors groups (e.g., the NATO Naval Armaments Group), Senior National Representative (SNR) meetings, the Technical Cooperative Program and Scientific Committee National Representatives meetings.
- (U) Promote research initiatives at the NATO Supreme Allied Command Atlantic, Undersea Research Centre (SACLANTCEN) in La Spezia, Italy in the areas of anti-submarine warfare (ASW), mine countermeasures (MCM), and littoral warfare.
- (U) Participation in the Engineering and Scientist Exchange Program (ESEP).

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

(U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$313) Supported DoN participation at SNR Conferences with allies for harmonization of requirements and identification of potential collaborative R&D projects.
- (U) (\$619) Supported DoN participation in U.S./allied data exchange conferences to identify foreign technologies and R&D projects in which the Navy may desire to collaborate as well as on-going efforts to initiate/revise/terminate data exchange annexes (DEAs) to target new technologies and expand, where appropriate, to include exchanges with former Soviet Union (FSU) countries.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N
PROGRAM ELEMENT TITLE: Management, Technical
International Support

DATE: February 1998
PROJECT NUMBER: R0149
PROJECT TITLE: International
Cooperative RDT&E

- (U) (\$450) Updated and maintained the DoN data bases for drafting, negotiating, managing and tracking of proposed International Agreements (IAs) for "high leverage/high payoff" R&D technology base cooperative projects with key allies and friendly nations.
- (U) (\$10) Supported Acquisition Integrated Product Teams (IPTs) in evaluating international cooperative alternatives in development of DON programs as well as support to OSD International Cooperative Opportunities Groups (ICOG) regarding DON requirements and initiatives.
- (U) (\$186) Maintained a level of Navy participation in the ESEP at approximately four scientists/engineers. Continued to conduct post-assignment analysis of scientists/engineers to better target assignments with emerging technologies and programs at foreign research establishments.
- (U) (\$50) Continued to fund the efforts of Systems Commands (SYSCOMs) and laboratories in researching and negotiating international cooperative programs.
- (U) (\$138) Continued to fund DON efforts to promote research initiatives at the NATO SACLANTCEN in the areas of ASW, MCM, and littoral warfare.

2. (U) FY 1998 PLAN:

- (U) (\$330) Continue to support DoN participation at SNR Conferences with allies for harmonization of requirements and identification of potential collaborative R&D projects.
- (U) (\$547) Continue to support DoN participation in U.S./allied data exchange conferences to identify foreign technologies and R&D projects in which the Navy may desire to collaborate as well as on-going efforts to initiate/revise/terminate DEAs to target new technologies and expand, where appropriate, to include exchanges with FSU countries.
- (U) (\$375) Continue to update and maintain the DoN data bases for drafting, negotiating, managing and tracking of proposed IAs for "high leverage/high payoff" R&D technology base cooperative projects with key allies and friendly nations.
- (U) (\$10) Provide support to Acquisition IPTS in evaluating international cooperative alternatives in development of DON programs as well as support to OSD ICOGs regarding DON requirements and initiatives.
- (U) (\$224) Maintain a level of Navy participation in the ESEP at approximately five scientists/engineers. Continue to conduct post-assignment analysis of scientists/engineers to better target assignments with emerging technologies and programs at foreign research establishments.
- (U) (\$20) Continue to fund the efforts of SYSCOMs and laboratories in researching and negotiating international cooperative programs.
- (U) (\$146) Continue to fund DON efforts to promote research initiatives at the NATO SACLANTCEN in the areas of ASW, MCM, and littoral warfare.

3. (U) FY 1999 PLAN:

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N
PROGRAM ELEMENT TITLE: Management, Technical
International Support

DATE: February 1998
PROJECT NUMBER: R0149
PROJECT TITLE: International
Cooperative RDT&E

- (U) (\$387) Continue to support DoN participation at SNR Conferences with allies for harmonization of requirements and identification of potential collaborative R&D projects.
- (U) (\$600) Continue to support DoN participation in U.S./allied data exchange conferences to identify foreign technologies and R&D projects in which the Navy may desire to collaborate as well as on-going efforts to initiate/revise/terminate DEAs to target new technologies and expand, where appropriate, to include exchanges with FSU countries.
- (U) (\$550) Continue to update and maintain the DoN data bases for drafting, negotiating, managing and tracking of proposed IAs for "high leverage/high payoff" R&D technology base cooperative projects with key allies and friendly nations.
- (U) (\$50) Provide support to Acquisition IPTS in evaluating international cooperative alternatives in development of DON programs as well as support to OSD ICOGs regarding DON requirements and initiatives.
- (U) (\$400) Maintain a level of Navy participation in the ESEP at approximately six scientists/engineers. Continue to conduct post-assignment analysis of scientists/engineers to better target assignments with emerging technologies and programs at foreign research establishments.
- (U) (\$50) Continue to fund the efforts of SYSCOMs and laboratories in researching and negotiating international cooperative programs.
- (U) (\$120) Continue to fund DON efforts to promote research initiatives at the NATO SACLANTCEN in the areas of ASW, MCM, and littoral warfare.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	1,755	1,798	2,198
(U) Appropriated Value:	-	1,798	-
(U) Adjustments from FY 1998 PRESUDG:	+11	-146	-41
(U) FY 1999 President's Budget Request:	1,766	1,652	2,157

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-21), revised economic assumptions (-2), and update to reflect actual execution (+34). FY 1998 adjustment is due to other program changes (-138), economic assumptions (-4), and other minor adjustments (-4). FY 1999 adjustment is due to

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N
PROGRAM ELEMENT TITLE: Management, Technical
International Support

DATE: February 1998
PROJECT NUMBER: R0149
PROJECT TITLE: International
Cooperative RDT&E

Navy Working Capital Fund (NWCF) surcharge correction (-4), other NWCF adjustments (+4) and other minor adjustments (-41).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0603790D (Nunn Armaments Cooperation)

(U) PE 0605130D (Foreign Comparative Testing)

(U) PE 0603790N (NATO Cooperative Research and Development)

D. (U) SCHEDULE PROFILE: Not applicable.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: These programs are funded under RDT&E Management Support because it supports the operations and installations required for general research and development use.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N
PROGRAM ELEMENT TITLE: Management, Technical
International Support

DATE: February 1998
PROJECT NUMBER: R1767
PROJECT TITLE: Naval War College/
Center for Naval Warfare Studies

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R1767	Naval War College/Center for Naval Warfare Studies 1,523	1,392	2,312	2,347	2,383	2,424	2,469	CONT.	CONT.

- A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Naval War College (NWC) research activities serve as a focal point, stimulus, and major source of strategic and campaign thought within the Navy. These efforts generate strategy and campaign alternatives, provide for evaluation through wargaming methodologies, and provide recommendations to the Chief of Naval Operations (CNO) and fleet commanders regarding the formulation and execution of strategy.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$850) Conducted strategic studies in response to SECNAV, CNO, UNIFIED, and Fleet CINC taskings in such areas as expeditionary warfare, Russian naval military-to-military relations, and crisis management.
- (U) (\$615) Conducted major wargames culminating in Global '97.
- (U) (\$58) Provided for selected NWC students to conduct advanced research projects.

2. (U) FY 1998 PLAN:

- (U) (\$850) Conduct strategic studies in response to SECNAV, CNO, UNIFIED, and Fleet CINC taskings in such areas as peacekeeping and peace enforcement, environmental law and freedom of navigation, and direct fleet support.
- (U) (\$482) Conduct major wargames culminating in Global '98.
- (U) (\$60) Provide for selected NWC students to conduct advanced research projects.

2. (U) FY 1999 PLAN:

- (U) (\$1,635) Conduct strategic studies in response to SECNAV, CNO, UNIFIED, and Fleet CINC taskings in such areas as maritime strategy, decision support, and direct fleet support.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N
PROGRAM ELEMENT TITLE: Management, Technical
International Support

DATE: February 1998
PROJECT NUMBER: R1767
PROJECT TITLE: Naval War College/
Center for Naval Warfare Studies

- (U) (\$615) Conduct major wargames culminating in Global '99.
- (U) (\$62) Provide for selected NWC students to conduct advanced research projects.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	1,525	1,591	1,647
(U) Appropriated Value:	-	1,591	-
(U) Adjustments from FY 1998 PRESBUDG:	-2	-199	+665
(U) FY 1999 President's Budget Request:	1,523	1,392	2,312

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to revised economic assumptions (-2). FY 1998 adjustment is due to other program changes (-127), economic assumptions (-4) and reduced Global War Games upgrades (-68). FY 1999 adjustment is due to NWCF surcharge correction (+6), expansion of support to Chief of Naval Operations Strategic Studies Group to develop revolutionary naval warfare innovations (+700) and an inflation adjustment (-41).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2221

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Assessment Program

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X2221 Assessment Program	11,729	10,920	12,800	13,112	13,415	13,653	13,357	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: X2221, Assessment Program consolidates analytical and management support to the Planning and Programming segments of the Navy Planning, Programming and Budgeting System (PPBS). This project supports the development of annual Joint Mission Area/Investment Balance Review assessments which provide analytical underpinnings and basis for programmatic decisions made by the Navy's top leadership during the Planning and Programming phases of the PPBS process. This program provides the Navy input to the VCJCS lead Joint Warfighting Capability Assessment process. Assessment program develops tools and analytical methodologies based on standards and technical recommendations as provided by the Naval Modeling and Simulation Program (X2222) and provides technical leadership for the analysis functional area of Naval Modeling and Simulation.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

(1) (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$ 200) Developed, updated and maintained detailed level Navy Standard scenarios based on Defense Planning Guidance.
- (U) (\$8,770) Performed Joint Mission Area/Support Area assessments to support the interactive Investment Balance Review process. Efforts include Joint Strike, Joint Surveillance, Strategic Deterrence, Forward Presence, Joint Littoral, Joint SEW/I, and Strategic Sealift/Protection and their Integration into the Investment Balance Review. Provide Navy input to JWCA process.
- (U) (\$1,573) Continued to develop and accredit Joint Mission Area/Support Area tools and improve analytic methodology.
- (U) (\$1,186) Used the standard simulation and database architecture developed by Naval Modeling and Simulation re-host legacy models in the new framework, vastly improving the utility of these tools in the assessment process. Developed new tools that utilized models in the standard simulation and database architecture. Coordinated and supported Joint Analytical Model Improvement Program (JAMIP).

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2222

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Naval Modeling and
Simulation

(2)(U) FY 1998 PLAN:

- (U) (\$ 167) Develop, update and maintain detailed level Navy Standard scenarios based on Defense Planning Guidance.
- (U) (\$8,168) Perform Joint Mission Area/Support Area assessments to support the interactive Investment Balance Review process; efforts include Joint Strike, Joint Surveillance, Strategic Deterrence, Forward Presence, Joint Littoral, Joint SEW/I, and Strategic Sealift/Protection and their Integration into the Investment Balance Review. Provide Navy input to JWCA process.
- (U) (\$1,485) Continue to develop and accredit Joint Mission Area/Support Area tools and improve analytic methodology.
- (U) (\$1,100) Using the standard simulation and database architecture developed by Naval Modeling and Simulation to re-host legacy models into the new framework, vastly improving the utility of these tools to the assessment process. Develop new tools that utilize models in the standard simulation and database architecture. Coordinate/support Joint Analytical Model Improvement Program (JAMIP).

(3) (U) FY 1999 PLAN:

- (U) (\$ 208) Develop, update and maintain detailed level Navy Standard scenarios based on Defense Planning Guidance.
- (U) (\$8,980) Perform Joint Mission Area/Support Area assessments to support the interactive Investment Balance Review process; efforts include Joint Strike, Joint Surveillance, Strategic Deterrence, Forward Presence, Joint Littoral, Joint SEW/I, and Strategic Sealift/Protection and their Integration into the Investment Balance Review. Provide Navy input to JWCA process.
- (U) (\$1,978) Continue to develop and accredit Joint Mission Area/Support Area tools and improve analytic methodology.
- (U) (\$1,634) Using the standard simulation and database architecture developed by Naval Modeling and Simulation to re-host legacy models into the new framework, vastly improving the utility of these tools to the assessment process. Develop new tools that utilize models in the standard simulation and database architecture. Coordinate/support Joint Analytical Model Improvement Program (JAMIP).

B. (U) PROGRAM CHANGE SUMMARY:

	FY 1997	FY 1998	FY 1999
(U) FY 1998 President's Budget:	11,983	11,630	13,000

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2222

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Naval Modeling and
Simulation

(U) Appropriated Value:

(U) Adjustments from FY 1998 PRESBUDG:

-254

-710

-200

(U) FY 1999 OSD/OMB Budget Submit:

11,729

10,920

12,800

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 funding change due to SBIR reduction (-\$228K), and a minor adjustment to finance other Department requirements (-\$10K), and inflation adjustment (-\$14K) and economic assumptions (\$-2k). FY98 funding change due to Contract Advisory and Assistance Services reduction (-\$365K); 1.5% General Reductions (\$ -174K); R&D General Reduction (-\$145K) and Economic Assumptions (\$-26K). FY 1999 funding change due to a Navy Working Capital Fund adjustment (+\$20K)and (-220K) various adjustments

(U) Schedule: Not applicable.

(U) Technical: Not applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable

(U) RELATED RDT&E: Not applicable

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2222

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Naval Modeling and
Simulation

(U) COST (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X2222 Naval Modeling & Simulation	3,967	3,979	8,375	10,567	11,139	10,404	10,548	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: X2222, Naval Modeling and Simulation (M&S) provides the overarching policy, coordination and technical support for Naval Modeling & Simulation. This project responds to Congressional guidance to improve modeling and simulation focus, coordination and oversight. It coordinates the development and execution of Naval M&S program, including distributed simulation tool development, M&S incorporation with C4I systems and embedded training systems, and an orderly process of model Verification, Validation and Accreditation required by current directives. This effort funds the Naval Modeling and Simulation Technical Support Group. This program leverages, assembles and consolidates program-specific Modeling and Simulation capabilities developed by Program Managers, Naval Warfare Centers, Laboratories, Federally Funded Research and Development Centers, and contractors to evolve an integrated, interoperable core M&S capability for Navy. The coordination of Modeling and Simulation that results from this program are of significant benefit to training, acquisition, RDT&E and military operations.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$ 510) Naval participation in the development and implementation of Distributed Interactive Simulation Industry standards and the application of distributed simulation to a wide variety of operational, research and development, training, test and evaluation exercises. Provided core M&S support to CINCLANTFLT 97/COMPTUEX.
- (U) (\$1,601) Naval Policy, coordination and technical support. Funded the Naval Modeling & Simulation Technical Support Group, which provided: an annual update to the Naval Modeling and Simulation Catalog, Master Plan and Investment Strategy; technical support to PEOs/DRPMS/Program Managers/Warfare Centers/Labs; and Naval technical Interface to Industry, Joint, DOD, and other services activities. Funded Navy M&S War Room continuing focus of independent M&S initiatives into coherent process. Produced a Navy M&S Master Plan. Conducted workshops in development of a draft Navy M&S Investment Plan.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2222

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Naval Modeling and
Simulation

- (U) (\$ 431) Naval contribution to the Aggregate Level Simulation Protocol development including functional validation and Joint exercise participation. Included improvements to the Naval Wargaming Models to permit appropriate Joint participation. Participated in Ulchi Focus Lens, Synthetic Theater of War, and United Endeavor Joint Exercises.
- (U) (\$1,086) Continued development of common services, tools and databases. Developed the Synthetic Battlespace, through an evolutionary process, integrating standards, standard models, standard data and connectivity to support all Naval Assessment, Training, Acquisition and Operational communities; continued rehosting of legacy models into the framework and development of new models in the standard simulation and database architecture; provided the necessary planning, coordination and technical expertise; provided comprehensive set of data needed to support M&S; Developed Virtual Repository for standard models and standard data. Planned, coordinated and selectively built a contiguous M&S network structure based upon existing and growing DoD and commercial networks. Supported development of multi-service common simulation framework and necessary infrastructure and tools. Put into limited operation a Navy M&S Information System (NMSIS) based on web technology and consistent with the other Services and OSD.
- (U) (\$ 339) Continued development of the Verification, Validation and Accreditation (VVA) process. Continued implementation of the VVA process on new Naval M&S development and Navy legacy model. Developed a final draft SECNAV Instruction for VV&A of Naval M&S.

2. (U) FY 1998 PLAN:

- (U) (\$ 762) Perform Naval engineering and technical analysis at the most pressing issues facing the Navy in the M&S arena. Several major acquisitions are currently in their early stages of development and have committed to the development of Product Reference Models. These Models will enable the Navy to embrace a simulation based acquisition thrust. For M&S C4I to have a major impact on Fleet operations, effective linkage must be developed between the M&S and the shipboard systems.
- (U) (\$1,938) Continue development of common services, tools, and data bases. Develop the Synthetic Battlespace and the Navy Modeling and Simulation Information System (NMSIS), through an evolutionary process, integrating standards, standard models, standard data and connectivity to support all Naval assessments, training, acquisition and operational communities. Provide the necessary planning and coordination of M&S efforts across the navy M&S Functional Areas, other Services, OSD, Joint Staff, and other agencies to develop policies and procedures necessary for M&S standardization within the Navy. Provide annual updates to the Naval M&S Catalog, Master Plan, and Investment Strategy.
- (U) (\$ 455) Continue M&S Quality Assurance development of the Verification, Validation, and Accreditation (VV&A) process and guidelines for modeling and simulation and the Verification, Validation, and Certification (VV&C) process and guidelines for data. Continue implementation of the VV&A/VV&C process and review on both new and legacy M&S plans and reports. Maintain and operate the Naval M&S VV&A/VV&C repository. Establish and implement a VV&A/VV&C training curriculum for developers and accreditors. Provide annual VV&A/VV&C assessment to the CNO.

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2222

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Naval Modeling and
Simulation

- (U) (\$ 824) Naval participation in the conduct of Fleet Exercise simulation experiments, and the application of distributed simulation to a wide variety of operational, research and development, training, test and evaluation exercises. A series of simulation projects will develop the Naval Synthetic Environment structure and enable virtual prototype models and data to be used by all Naval applications throughout their lifecycle. Continued focus on simulation projects will be on support of the OSD mandated JMASS and HLA and other pressing issues facing the Navy. These projects will provide technical direction in support of Navy activities.

2. (U) FY 1999 PLAN:

- (U) (\$1,460) Perform Naval engineering and technical analysis at the most pressing issues facing the Navy in the M&S arena. Several major acquisitions are currently in their early stages of development and have committed to the development of Product Reference Models. These Models will enable the Navy to embrace a simulation based acquisition thrust. For M&S C4I to have a major impact on Fleet operations, effective linkage must be developed between the M&S and the shipboard systems.
- (U) (\$2,842) Continue development of common services, tools, and data bases. Develop the Synthetic Battlespace and the Navy Modeling and Simulation Information System (NMSIS), through an evolutionary process, integrating standards, standard models, standard data and connectivity to support all Naval assessments, training, acquisition and operational communities. Provide the necessary planning and coordination of M&S efforts across the navy M&S Functional Areas, other Services, OSD, Joint Staff, and other agencies to develop policies and procedures necessary for M&S standardization within the Navy. Provide annual updates to the Naval M&S Catalog, Master Plan, and Investment Strategy.
- (U) (\$800) Continue M&S Quality Assurance development of the Verification, Validation, and Accreditation (VV&A) process and guidelines for modeling and simulation and the Verification, Validation, and Certification (VV&C) process and guidelines for data. Continue implementation of the VV&A/VV&C process and review on both new and legacy M&S plans and reports. Maintain and operate the Naval M&S VV&A/VV&C repository. Establish and implement a VV&A/VV&C training curriculum for developers and accreditors. Provide annual VV&A/VV&C assessment to the CNO.
- (U) (\$3,273) Naval participation in the conduct of Fleet Exercise simulation experiments, and the application of distributed simulation to a wide variety of operational, research and development, training, test and evaluation exercises. A series of simulation projects will develop the Naval Synthetic Environment structure and enable virtual prototype models and data to be used by all Naval applications throughout their lifecycle. Continued focus on simulation projects will be on support of the OSD mandated JMASS and HLA and other pressing issues facing the Navy. These projects will provide technical direction in support of Navy activities.

B. (U) PROGRAM CHANGE SUMMARY:

FY 1997

FY 1998

FY 1999

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: X2222

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Naval Modeling and
Simulation

(U)	FY 1998 President's Budget:	4,409	9,286	10,066
(U)	Appropriated Value:			
(U)	Adjustments from FY 1998 PRESBUDG:	-442	-5,307	-1,691
(U)	FY 1999 President's Budget:	3,967	3,979	8,375

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 funding change due to adjustments made to finance other Department requirements (-\$403K), and Congressional undistributed general adjustments (-\$39K). FY 1998 funding change due to Research and Development Centers rate adjustments (-\$24K), Congressional undistributed general adjustments (-\$283K) and specific Congressional reduction (-\$5,000K). FY 1999 funding changes reflect a shift in RDT&E,N to O&M,N to provide for life cycle management of Navy M&S Quality Assurance and the NMSIS Resource Repository programs (-\$792K); reduction in Navy M&S taken to support IT-21 requirements (-\$595K); and other program changes (-\$304K).

(U) Schedule: The FY 1998 Congressional Reduction has caused the work on Navy M&S network structure for hosting of legacy models to be delayed until after FY 1999. The schedule will be restructured during preparation of the FY 2000-2001 Budget.

(U) Technical: The FY 1998 Congressional Reduction has required the reversion to minimum levels of work on planning, coordinating and building a contiguous M&S network structure based on existing and growing DoD and commercial networks. This will delay Navy fulfillment of its responsibilities in support of the Defense Modeling and Simulation Office and the Modeling and Simulation Resource Repository.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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Budget Item Justification
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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605853N

PROJECT NUMBER: W2347

PROGRAM ELEMENT TITLE: Management, Technical
International Support

PROJECT TITLE: Test and Evaluation
Modeling and Simulation

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W2347 Test and Evaluation Modeling and Simulation			3,046	1,463	1,465	1,458	1,453	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project enhances the Test and Evaluation (T&E) efforts of the Navy by providing policy, coordination, and technical support for the Modeling and Simulation (M&S) program. The mission is to promote and standardize modeling and simulation for interoperability and re-use within and between programs and across the Research Development Test and Evaluation community. This project also provides funds to incrementally establish the Joint Synthetic Test and Evaluation Battlespace (JSTEB) Joint Operational Requirements document. Test and Evaluation Modeling and Simulation (TEMS) is required to reduce the cost, schedule, and risk of acquisition programs by supporting the early integration of M&S capabilities into the T&E process.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: Budget Activity 6: This program is funded under Research, Development, Test and Evaluation management support because it supports the operations and installations required for general research and development.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1999 PLAN:

- (U) (\$3,046) Demonstrate the re-use and interoperability of M&S assets in acquisition through pilot programs. Provide services for cost sharing of M&S developments. Finalize the JSTEB Joint Operational Requirements Document. Continue to support Navy M&S policy, coordination, and technical support. Update the Navy TEMS Master Plan and the Program Management Plan; coordinate and leverage Army and Air Force, joint, and OSD T&E modeling and simulation initiatives; maintain the Navy T&E Repository for M&S; provide technical support to the Navy acquisition community using T&E modeling and simulation resources.

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

(U) 1998 President's Budget:	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
			3,100

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FY 1999 RDT&E BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605853N PROJECT NUMBER: W2347 DATE: February 1998
PROGRAM ELEMENT TITLE: Management, Technical PROJECT TITLE: Test and Evaluation
International Support Modeling and Simulation

(U) Appropriated Value:

(U) Adjustments from PRESBUDG: -54

(U) FY 1999 President's Budget Submit: 3,046

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) Funding: FY 1999 decrease of \$54 thousand represents Commercial Purchases Inflation.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E:

(U) PE 0604759N: Major T&E Investment

(U) PE 0605864N: Test and Evaluation Support

D. (U) SCHEDULE PROFILE: Not applicable

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605861N

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology Management

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0104	NAVMED Management Support 7,504	4,966	5,672	6,264	7,595	7,901	8,909	CONT.	CONT.
R0135	ONR Science and Technology Management 51,487	49,195	50,930	51,041	52,214	53,371	54,645	CONT.	CONT.
R2353	R&D DFAS Bill 9,240	0	7,853	7,526	7,038	6,591	6,243	CONT	CONT
X0832	Central Management Support 427	0	0	0	0	0	0	0	12,108
TOTAL	68,658	54,161	64,455	64,831	66,847	67,863	69,797	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program supports the Office of Naval Research (ONR), small non-overhead distributing Navy Research & Development (R&D) activities, and Bureau of Medicine and Surgery administered medical research laboratories. It pays salaries, rent, utilities, printing, supplies, materials, and other day-to-day costs that are necessary to support these Navy activities that administer and execute the Navy's R&D program. The vast majority of these costs are fixed costs which primarily support scientists and engineers working on the Navy Science and Technology Program. For overhead distributing activities, this program covers costs not chargeable to overhead or to customers.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605861N

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology Management

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0104	NAVMED Management Support 7,504	4,966	5,672	6,264	7,595	7,901	8,909	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports certain program-wide management and operational costs at Bureau of Medicine and Surgery (BUMED) administered Naval Medical Research Laboratories that do not distribute overhead. Funds are used for general administrative expenses including salaries of support personnel, centralized technical services, common support costs under host-tenant agreements, routine maintenance and repair of buildings and costs of laboratory support provided by other agencies/commands.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$7,504) Provided management support for operations at three BUMED in-house laboratories and one detachment.

2. (U) FY 1998 PLAN:

- (U) (\$4,966) Provides management support for operations at three BUMED in-house laboratories and one detachment.

3. (U) FY 1999 PLAN:

- (U) (\$5,672) Provides management support for operations at three BUMED in-house laboratories and one detachment.

B. (U) PROGRAM CHANGE SUMMARY:

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DATE: February 1998

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PROGRAM ELEMENT: 0605861N

PROJECT NUMBER: M0104

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology
Management

PROJECT TITLE: NAVMED Management
Support

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 PRESIDENTS Budget:	4,888	5,266	5,469
(U) Appropriated Value:	-	5,118	-
(U) Adjustment from FY 1998 PRESBUDG:	+2,616	-300	+203
(U) FY 1999 PRESIDENT'S Budget Request:	7,504	4,966	5,672

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 program increased due to the net of Small Business Innovation Research (SBIR) and Economic assumptions reductions (-25), actual execution realignments(+2,641). The FY 1998 program decreased due to Congressional undistributed reductions and a Fiscal Constraint reduction (-300). The FY 1999 program increased due to a Naval Working Capital Fund (NWCFF) adjustments (+10), and military and civilian pay rate adjustments (+193).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

(U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) Related RDT&E:

(U) PE 0605862N (RDT&E,N Instrumentation Modernization) Funds investment items and general purpose equipment for activities supported by this project. All Navy medical research and development programs receive central management support under program element 0605861N.

(U) SCHEDULE PROFILE: Not applicable.

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DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605861N

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology Management

(U) (COST): (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0135	ONR Science and Technology Management								
	51,487	49,195	50,930	51,041	52,214	53,371	54,645	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports the Office of Naval Research (ONR) management and direction for the entire Navy Science and Technology program. ONR sponsors scientific advances which benefit all Joint Mission Areas/Support Areas, including Joint Strike and Joint Littoral Warfare, and supports the fleet's ability to operate from a position of technological superiority. Functions performed include (1) scientific and technical direction of the nationwide Category 6.1 basic research program with colleges, universities, non-profits and Navy laboratories and warfare centers; (2) scientific and technical direction of the 6.2 applied research program through the Navy's R&D laboratories and warfare centers and industry; (3) scientific and technical direction of the Navy advanced technology development program (Category 6.3) through the Navy Systems Commands, laboratories, warfare centers and industry; (4) management, resource formulation, program assessment, and contract negotiation/administration of the Navy basic research, applied research and advanced technology development program; (5) program management and administrative support to selected research programs of Ballistic Missile Defense Organization (BMDO), Defense Advanced Research Projects Agency (DARPA), and Chief of Naval Operations (CNO); and (6) coordination of the Navy's Technology Base program within the context of total DoD/Government (e.g., National Science Foundation, National Academy of Sciences) R&D initiatives in order to maximize scientific advances. This project also supports ONR management and direction for the following Navy-wide programs: Small Business Innovation Research (SBIR), Naval Research Advisory Committee, Navy Patent Program, Navy Historically Black Colleges and Universities Program, Navy Manufacturing Technology Program and the SSBN Survivability Program. In addition, this program supports ONR's Navy-wide responsibilities in the negotiation and establishment of indirect cost rates for DoD-assigned universities and performance of contract administration for all DoD contacts/grants at all colleges and universities. This project funds salaries, rent, utilities, supplies, and other fixed costs at ONR Headquarters and field offices.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS

1. (U) FY 1997 ACCOMPLISHMENTS:

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DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605861N

PROJECT NUMBER: R0135

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology
Management

PROJECT TITLE: ONR Science and
Technology Management

- (U) (\$51,487) The project continued to provide for basic costs of the ONR headquarters and its field activities in support of the entire Navy Science and Technology program. Specifically, it paid the salaries of scientific and engineering personnel who direct the execution of the Navy's basic research (Category 6.1), applied research (Category 6.2), and advanced technology development (Category 6.3) programs at the nation's universities/colleges, Navy laboratories and warfare centers, and private industry. In addition to its Navy Science and Technology missions, ONR provided important program management and administrative support to BMDO, DARPA, and CNO. Almost all the funds in this project are fixed costs, such as salaries, building rent, communications, etc. The project continued to provide support for the ONR headquarters, the ONR European Office (London), the ONR Asian Office (Tokyo), and field detachments.
2. (U) FY 1998 PLAN:
- (U) (\$49,195) The project continues to provide for basic costs of the ONR headquarters and its field activities in support of the entire Navy Science and Technology program. Specifically, it pays the salaries of scientific and engineering personnel who direct the execution of the Navy's basic research (Category 6.1), applied research (Category 6.2), and advanced technology development (Category 6.3) programs at the nation's universities/colleges, Navy laboratories and warfare centers, and private industry. In addition to its Navy Science and Technology mission, ONR provides important management and administrative support to BMDO, DARPA, and CNO. Almost all the funds in this project are fixed costs, such as salaries, building rent, communications, etc. The project continues to provide support for the ONR headquarters, the ONR European Office (London), the ONR Asian Office (Tokyo), and field detachments.
3. (U) FY 1999 PLAN:
- (U) (\$50,930) The project continues to provide for basic costs of the ONR headquarters and its field activities in support of the entire Navy Science and Technology program. Specifically, it pays the salaries of scientific and engineering personnel who direct the execution of the Navy's basic research (Category 6.1), applied research (Category 6.2), and advanced technology development (Category 6.3) programs at the nation's universities/colleges, Navy laboratories and warfare centers, and private industry. In addition to its Navy Science and Technology mission, ONR provides important management and administrative support to BMDO, DARPA, and CNO. Almost all the funds in this project are fixed costs, such as salaries, building rent, communications, etc. The project continues to provide support for the ONR headquarters, the ONR European Office (London), the ONR Asian Office (Tokyo), and field detachments. Also included is a transfer of responsibility to pay for the cost of CFO audits performed by the Naval Audit Service.

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PROGRAM ELEMENT: 0605861N

PROJECT NUMBER: R0135

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology
Management

PROJECT TITLE: ONR Science and
Technology Management

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 PRESIDENTS Budget:	50,066	52,325	51,194
(U) Appropriated Value:	-	50,843	-
(U) Adjustment from FY 1998 PRESBUDG:	+1,421	-3,130	-264
(U) FY 1999 PRESIDENT'S Budget Request:	51,487	49,195	50,930

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 program increased due to revised Economic Assumptions adjustment(-61) and actual execution adjustments (+1,482). The FY 1998 program was decreased due to Congressional fiscal constraint and undistributed reductions (-3,001) and an internal adjustment (-129). The FY 1999 program decreased due to a minor pricing adjustment (-324), a Naval Working Capital Fund (NWCF) Surcharge adjustment (+213), a functional transfer of Human Resources Management Office to O&M,N (-751), transfer of responsibility to pay for the cost of CFO audits performed by the Naval Audit Service (+338), a minor internal adjustment (-62) and military and civilian pay rate adjustment (+322).

(U) Schedule: Not applicable.
(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable.

(U) Related RDT&E:

(U) Program Element 0605862N (RDT&E,N Instrumentation Modernization) Funds investment items for the activities covered in this project.

D. (U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605861N

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology Management

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R2353 DFAS R&D Bill	9,240	0	7,853	7,526	7,038	6,591	6,243	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project reflects costs for accounting services provided to Research and Development (R&D) activities by the Defense Finance and Accounting Service (DFAS).

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$9,240) Funded DFAS bill for transactions processed in support of Department of the Navy R&D activities. Specific services included pay, transportation, commercial invoices, travel, and the maintenance of trial balances.

2. (U) FY 1998 PLAN: FY-98 DFAS costs will be O&MN funded per USD(C) decision. FY-99 properly funds these costs in RDT&E,N.

3. (U) FY 1999 PLAN:

- (U) (\$7,853) Funds DFAS bill for transactions processed in support of Department of the Navy R&D activities. Specific services include pay, transportation, commercial invoices, travel, and the maintenance of trial balances.

B. (U) PROGRAM CHANGE SUMMARY:

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PROGRAM ELEMENT: 0605861N

PROJECT NUMBER: R2353

PROGRAM ELEMENT TITLE: RDT&E,N Science and Technology
Management

PROJECT TITLE: DFAS R&D Bill

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 PRESIDENTS Budget:	0	0	0
(U) Appropriated Value	-	-	-
(U) Adjustment from FY 1998 PRESBUDG:	+9,240	0	+7,853
(U) FY 1999 PRESIDENT'S Budget Request:	9,240	0	7,853

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 program was increased due to the budget based transfer from O&M,N for establishment of the separate project for DFAS financing (+9,240). The FY 1999 program increased due to the budget based transfer from O&M,N for establishment of the separate project for DFAS financing (+7,711) and a military and civilian pay rate adjustment (+142).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable.

(U) Related RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605862N

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation Modernization

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0105	NAVMED Instrumentation and Material Support								
	1,994	2,659	2,735	1,752	2,513	2,724	2,776	CONT.	CONT.
R0137	ONR Science & Technology Instrumentation Modernization								
	1,070	1,011	1,223	1,241	1,271	1,292	1,316	CONT	CONT.
W0566	NAVAIR Environmental Compliance								
	3,047	4,623	4,572	4,696	4,301	4,394	4,502	CONT.	CONT.
TOTAL	6,111	8,293	8,530	7,689	8,085	8,410	8,594	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element funds investment costs at certain Navy research, development, test, and evaluation laboratories and facilities. These laboratories and other facilities are involved in diverse activities such as: medical research, including research on new methods of combat casualty care; energy conservation; weapons testing; and a number of other programs. This program provides for research equipment in support of multiple program requirements at Bureau of Medicine and Surgery (BUMED) administered Medical Research Laboratories, supports environment protection and energy conservation projects at Naval Air Warfare Centers, and provides equipment for the Office of Naval Research (ONR) headquarters and field offices/detachments.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E,N MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

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DATE: February 1998

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PROGRAM ELEMENT: 0605862N

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation Modernization

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 20001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
M0105 NAVMED Instrumentation and Material Support	1,994	2,659	2,735	1,752	2,513	2,724	2,776	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This continuing modernization effort funds the procurement of new and replacement general purpose analytical and research support equipment, facility repairs, minor construction, alterations, equipment installation, and first destination transportation cost of newly purchased equipment for Bureau of Medicine and Surgery (BUMED) administered Naval Medical Research Laboratories and Detachments.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$904) Continued to provide new cutting edge research equipment and timely replacement of obsolete equipment too costly to repair and maintain.
- (U) (\$1,090) Continued to provide support to physical plant facility areas needing major repair, minor construction, rehabilitation to meet mission requirements as well as meeting environmental compliance and pollution abatement standards.

2. (U) FY 1998 PLAN:

- (U) (\$1,149) Continue to provide support for technologically advanced research equipment for data acquisition, automated sampling, and real time statistical analysis of biomedical research data utilizing data information systems integral with new equipment. Continue to replace obsolete research equipment.
- (U) (\$1,510) Continue to provide support to physical plant facility areas needing major repair, minor construction, rehabilitation to meet mission requirements as well as meeting environmental compliance and

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PROGRAM ELEMENT: 0605862N

PROJECT NUMBER: M0105

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation
Modernization

PROJECT TITLE: NAVMED Instrumentation and
Material Support

pollution abatement standards. Support American Association for the Accreditation of Laboratory Animal Care (AAALAC) accredited laboratories to maintain AAALAC accreditation status.

3. (U) FY 1999 PLAN:

- (U) (\$1,637) Continue to provide support for technologically advanced research equipment for data acquisition, automated sampling, and real time statistical analysis of biomedical research data utilizing data information systems integral with new equipment. Continue to replace obsolete research equipment.
- (U) (\$1,098) Continue to provide support to physical plant facility areas needing major repair, minor construction, rehabilitation to meet mission requirements as well as meeting environmental compliance and pollution abatement standards.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 PRESIDENT'S Budget:	1894	2,740	2,772
(U) Appropriated Value	-	2,740	-
(U) Adjustments from FY 1998 PRESBUDG:	+100	-81	-37
(U) FY 1999 PRESIDENT'S Budget Request:	1,994	2,659	2,735

(U) CHANGE SUMMARY EXPLANATION:

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PROGRAM ELEMENT: 0605862N

PROJECT NUMBER: M0105

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation
Modernization

PROJECT TITLE: NAVMED Instrumentation and
Material Support

(U) Funding: FY 1997 program increased due to a revised economic assumption (-2) and actual execution update adjustments of (+102). The FY 1998 program decreased due to Congressional undistributed reductions (-81). The FY 1999 program decreased due to a Naval Working capital Fund (NWCF) Surcharge adjustment (+11) and an inflation adjustment (-48).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) Related RDT&E:

(U) Program Element 0605861N (RDT&E,N Science and Technology Management) and Navy medical research and development programs.

D. (U) SCHEDULE PROFILE: Not applicable.

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PROGRAM ELEMENT: 0605862N

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation Modernization

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 20001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0137 ONR Science & Technology Instrumentation Modernization	1,070	1,011	1,223	1,241	1,271	1,292	1,316	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project purchases ADP and general support equipment for the Office of Naval Research (ONR) headquarters, International field offices, and nationwide field detachments.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$1,070) Purchased ADP and general support equipment for ONR headquarters, international field offices, and nationwide field detachments.

2. (U) FY 1998 PLAN:

- (U) (\$1,011) Purchase ADP and general support equipment for ONR headquarters, international field offices, and nationwide field detachments.

3. (U) FY 1999 PLAN:

- (U) (\$1,223) Purchase ADP and general support equipment for ONR headquarters, international field offices, and nationwide field detachments.

B. (U) PROGRAM CHANGE SUMMARY:

FY 1997 FY 1998 FY 1999
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BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605862N PROJECT NUMBER: R0137
PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation PROJECT TITLE: ONR S&T Instrumentation
Modernization Modernization

(U) FY 1998 PRESIDENT'S Budget:	1,000	1,042	1,240
(U) Appriopriated Value	-	1,042	-
(U) Adjustments from FY 1998 PRESBUDG:	+70	-31	-17
(U) FY 1999 PRESIDENT'S Budget Request:	1,070	1,011	1,223

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 funding increased due to SBIR Transfer (-26), a revised economic adjustment (-1) and an actual execution adjustment (+97). The FY 1998 program decreased due to Congressional undistributed reductions (-31). The FY 1999 program decreased due to a NWCF Surcharge adjustment (+5) and an inflation adjustment (-22).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) Related RDT&E:

(U) Program Element 0605861N (RDT&E,N Science and Technology Management) and Navy R&D science and technology programs.

D. (U) SCHEDULE PROFILE: Not applicable.

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DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605862N

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation Modernization

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W0566 NAVAIR Environmental Compliance	3,047	4,623	4,572	4,696	4,301	4,394	4,502	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This continuing project supports environmental compliance and pollution prevention related efforts at the Navy Major Range Test Facility Bases (MRTFB). The Navy MRTFB environmental projects include ongoing efforts to comply with Federal, State, and local environmental requirements.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$3,047) Performed underground storage tank monitoring, remediation projects, and hazardous waste disposal. Provided cleanup of oil spills; alleviated illicit discharges; performed studies; performed removal and disposal; performed unexploded ordnance cleanup and removal of lead. Provided various waste water pretreatment options to MRTFB facilities and performed endangered species inventories. Initiated cultural resource studies at China Lake. Completed dust abatement of 400,000 square feet of road surface at Supersonic Naval Ordnance Race Track (SNORT). Removed 4,321 pounds of Polychlorinated Bithenyl (PCB) contaminated transformers at China Lake's Little Baker Test Range.

2. (U) FY 1998 PLAN:

- (U) (\$4,623) Perform dust abatement at China Lake's Area R, underground storage tank remediations and replacements at Patuxent River and AUTECH, and conversions of Class I ozone depleting substance (ODS) air conditioning and refrigeration equipment. Continue cultural resource studies and endangered species inventories at Point Mugu and PCB contaminated transformer removal at China Lake.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605862N
PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation
Modernization

PROJECT NUMBER: W0566
PROJECT TITLE: NAVAIR Environmental
Compliance

3. (U) FY 1999 PLAN:

- (U) (\$4,572) Remove and dispose PCB contaminated transformers at China Lake and Patuxent River. Perform underground storage tank remediations at Patuxent River and AUTECH. Conduct conversions of Class I ODS air conditioning and refrigeration equipment at China Lake and Point Mugu. Continue endangered species surveys and sludge remediation efforts at Point Mugu. Design and build a fire containment system in Burro Canyon at China Lake.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 PRESIDENT'S Budget:	3,052	4,764	4,532
(U) Appropriated Value	-	4,764	-
(U) Adjustments from FY 1998 PRESBUDG:	-5	-141	+40
(U) FY 1999 PRESIDENT'S Budget Request:	3,047	4,623	4,572

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 program decreased due to minor reductions (-4) and actual execution adjustment (-1). The FY 1998 program decreased due to Congressional Undistributed reductions (-141). The FY 1999 program increased due to NWCf R&D adjustments (+99), an inflation adjustment (-80) and a Military and Civilian Pay adjustment (+21).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

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DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605862N

PROJECT NUMBER: W0566

PROGRAM ELEMENT TITLE: RDT&E,N Instrumentation
Modernization

PROJECT TITLE: NAVAIR Environmental
Compliance

(U) Related RDT&E:

(U) Program Element 0604759N (Major Test and Evaluation Investment)

(U) Program Element 0605864N (Test and Evaluation Support)

D. (U) SCHEDULE PROFILE: Not applicable.

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Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support

(U) COST: (Dollars in Thousands)

Table with 10 columns: PROJECT NUMBER & TITLE, FY 1997 ACTUAL, FY 1998 ESTIMATE, FY 1999 ESTIMATE, FY 2000 ESTIMATE, FY 2001 ESTIMATE, FY 2002 ESTIMATE, FY 2003 ESTIMATE, TO COMPLETE, TOTAL PROGRAM. Rows include S0354 RDT&E Ships Support, W0568 RDT&E Aircraft Flight Hours, W0569 RDT&E Aircraft Support, and a TOTAL row.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This continuing program provides support for ships and platforms required to accommodate Research, Development, Test and Evaluation (RDT&E) of new systems. The RDT&E ship and aircraft inventory is required to adequately test new and improved weapon systems, stay current with threats, and increase warfighting capability of the fleet.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
S0354 RDT&E Ships Support	12,421	13,226	12,705	15,676	15,623	12,964	13,285	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: S0354, RDT&E Ships Support. This project provides for operation and maintenance of platforms used as Sea Based Test Sites in support of the Navy Research, Development, Test, and Evaluation (RDT&E) program. These are the USS DOLPHIN (AGSS-555) and the Floating Instrumentation Platform (FLIP). Ex-USS DECATUR (DDG-31) is being supported by this line as the Self-Defense Test Ship (SDTS). Testing aboard these platforms reduces the number of fleet units required to support RDT&E efforts. In the case of the SDTS, it provides the capability of testing self-defense weapons systems to within their minimum ranges. A major cost of this project is regularly scheduled ship maintenance. The USS DOLPHIN (AGSS-555) is beginning a phased maintenance program. The remainder of the funds are used for purchase of supplies and equipment, fuel and petroleum products, repairs, and supporting modifications. Most costs are fixed and are associated with simply having these platforms in the inventory. A lesser portion of the costs varies with the tempo and type of ship operations and provides for systems improvements and replacement planning. The nature of the operation is determined by the overall Navy/DOD R&D testing program.

(U) USS DOLPHIN will support lethality testing and system operability testing of the MK 50, MK 46, and MK 48 ADCAP torpedoes. In addition, the SEAWOLF Material Qualification Program, Improved Extended Echo Ranging (IEER), Advanced Deployable System (ADS) OT&E, Surface Ship Torpedo Defense, and the Advanced Sea/Air/Land (SEAL) Delivery Program, Mobile Inshore Warfare Unit Arrays and the Sea-based Weapons and Tactics School (SWATS) are supported by USS DOLPHIN. USS DOLPHIN provides support for numerous undersea surveillance, sonar, communications and imaging programs.

(U)The current and projected Anti-Ship Cruise Missile (ASCM) threats require self-defense weapons systems capable of adequately countering ASCMs into the year 2000 and beyond. The National Defense Authorization Act for FY 87, section 910, "Testing of Certain Weapons Systems and Munitions," requires live-fire lethality testing of manned weapons systems. Operational and safety constraints limit realistic live-fire lethality testing with U.S. Navy ships and thus drive the requirement for having an afloat, unmanned, remotely controlled SDTS. EX-USS DECATUR has been converted to the SDTS. SDTS plans call for testing Close-In-Weapons System (CIWS), North Atlantic Treaty Organization (NATO) Sea Sparrow Missile System (NSSMS)/Enhanced Sea Sparrow Missile (ESSM), Ship Self-Defense System (SSDS), Rolling Airframe Missile (RAM), SLQ-32(V3), SPQ-9(B) and future short range Anti-Air Warfare systems against realistic threat presentation in an at-sea environment.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: S0354
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Ships Support

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$9,791) USS DOLPHIN supported MK 50/ADCAP Torpedo Guidance Advanced Technology Demonstrations (ATDs), MK 50 and MK 46 Torpedo Program Testing and New SSN material program testing. At-sea experiments for the periscope detection and undersea surveillance programs were conducted. Near ocean bottom operations and other RDT&E programs, including sea floor mapping, testing of undersea imaging and sonar systems, Thermo Electric Air Conditioning (TEAC) Systems, and communication systems were supported. ASDS crew orientation and training continued. Restricted Availability (RAV 1) was completed.
- (U) (\$630) FLIP continued to conduct research in underwater acoustic and non-acoustic phenomena to support ASW surveillance and weapons needs and ocean technology development. Due to non-affordability, no funding will be provided for FLIP from the Program Element in FY 1998 and out.
- (U) (\$2,000) Ex-DECATUR/SDTS conducted live fire operations at NAVAIRWARCENWPNDIV Point Mugu CA. Live fire testing was conducted with the CIWS Block 1A, CWIS Block 1B DT and OT, and LPI Sensors. This task will also support operation and maintenance of ship targets. NAVSURFWARCENDIV Port Hueneme, CA plans, schedules, and performs combat systems operations and maintenance on board SDTS.
- (U) Funding was initiated 10/96 and obligated by 9/97.

2. (U) FY 1998 PLAN:

- (U) (\$10,819) USS DOLPHIN provides support to chemical based sensing, surface ship periscope detection radar and hyperspectral imagery programs. USS DOLPHIN will support joint testing of ONR, SPAWAR, NRAD and ARPA undersea surveillance programs. In addition, Sea Based Weapons and Tactics School testing will continue as well as ASDS support. The ADS and IEER programs will be supported. USS DOLPHIN will continue to support near ocean bottom operations, torpedo exercises, fleet exercises and RDT&E programs modeling sonar propagation, testing sensors and communication systems. USS DOLPHIN conducts periodic phased maintenance to maintain certification and procures material to support continued operations. RAV 2 begins.
- (U) (\$2,407) Ex-DECATUR/SDTS conducts live fire operations at NAVAIRWARCENWPNDIV Point Mugu CA. Live fire testing planned includes the CIWS, SPQ-9(B), the RAM, the ESSM, and the SSDS. NAVSURFWARCENDIV Port Hueneme, CA, plans, schedules, and performs combat systems operations and maintenance on board SDTS.

(U) Funding will initiate 10/97 and obligate by 9/98.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: S0354
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Ships Support

3. (U) FY 1999 PLAN:

- (U) (\$10,352) USS DOLPHIN plans on supporting OT&E testing of the IEER, MK48 ADCAP, ADS programs. In addition, Sea Based Weapons and Tactics School testing will continue as well as ASDS support. USS DOLPHIN will continue to support near ocean bottom operations, torpedo exercises, fleet exercises and RDT&E programs modeling sonar propagation, testing sensors and communication systems. In addition, USS DOLPHIN conducts periodic phased maintenance to maintain certification and procures material to support continued operations. RAV 2 completes.
- (U) (\$2,353) Ex-DECATUR/SDTS conducts live fire operations at NAVAIRWARCENWPNDIV Point Mugu CA. Planned live fire testing includes the CIWS, the RAM, the ESSM and the SSDS. NAVSURFWARCENDIV Port Hueneme CA plans, schedules, and performs combat systems operations and maintenance on board SDTS.

(U) Funding will initiate 10/98 and obligate by 9/99.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: S0354
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Ships Support

B.	(U) PROGRAM CHANGE SUMMARY:	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
	(U) FY 1998 President's Budget	12,502	13,727	13,500
	(U) Appropriated Value:	13,034		
	(U) Adjustments from PRESBUDG:	-81	-501	-795
	(U) FY 1999 President's Budget	12,421	13,226	12,705

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY97 reductions consists of \$56K for the Small Business Innovation Research (SBIR) assessment and \$25K for minor pricing adjustments. FY98 reductions consists of \$376K for general undistributed reductions, and \$125K for minor pricing adjustments. FY99 decrease consists of \$795K for minor pricing adjustments.

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E:

- (U) PE 0604755N: NATO Sea Sparrow and CIWS (Phalanx)
- (U) PE 0602314N: Undersea Surveillance and Weapons Technology (USS DOLPHIN)
- (U) PE 0602435N: Oceanographic and Atmospheric Technology (RL3B, OT3B)
- (U) PE 0602111N: Surface/Aerospace Surveillance and Weapons Technology (OR1A)
- (U) PE 0604610N: Lightweight Torpedo Development (USS DOLPHIN)

D. (U) SCHEDULE PROFILE: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 5 of 16)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: S0354
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Ships Support

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. USS DOLPHIN	9,776	10,789	10,322
b. FLIP	630	0	0
c. SDTS	2,000	2,407	2,353
d. Travel	15	30	30
Total	12,421	13,226	12,705

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands) - Not applicable

C. (U) FUNDING PROFILE: Not applicable

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3,Page 6 of 16)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ESTIMATE	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W0568 RDT&E Aircraft Flight Hours	5,646	8,464	10,844	11,085	11,347	11,589	11,849	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: RDT&E Aircraft Flight Hours. This non-acquisition project supports direct flight hour costs, including organizational and intermediate level maintenance, as well as associated consumables, including petroleum, oil, and lubricants (POL). These flight hours are used for aircrew training, the accomplishment of pilot proficiency requirements (approximately 3 hours per pilot per month), transition to new aircraft types, and support of Research and Development programs at four Naval Air Systems Command/Naval Surface Warfare Center/Office of Naval Research (NAVAIR/NSWC/ONR) activities. Annual flight simulator training for Naval Air Warfare Center (NAWC) activities, as well as pilot/Naval Flight Officer (NFO) Standardization and Instrument check flights for Navy personnel assigned to Defense Logistics Agency (DLA) activities are also supported.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$5,646) Met training/proficiency flight hour requirements, maintaining a corresponding percentage of onboard pilots in a flight status, preserving adequate margins of safety. The highest priorities of annual flight simulator training as well as support to DLA activities were achieved.

2. (U) FY 1998 PLAN:

- (U) (\$8,464) Meet training/proficiency and project flight hour requirements. Provide organizational and intermediate-level maintenance, supply, and POL in support of RDT&E aircraft operations. Support pilot/NFO check flights for DLA activities.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0568
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Flight Hours

3. (U) FY 1999 PLAN:

- (U) (\$10,844) Meet training/proficiency and project flight hour requirements. Provide organizational and intermediate-level maintenance, supply, and POL in support of RDT&E aircraft operations. Support pilot/NFO check flights for DLA activities.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget	5,661	8,723	10,803
(U) Appropriated Value:	5,903		
(U) Adjustments from PRESBUDG:	-15	-259	+41
(U) FY 1999 President's Budget Submit	5,646	8,464	10,844

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 decrease consists of \$13 thousand for the Small Business Innovation Research (SBIR) transfer and \$7 thousand for revised economic adjustment offset; by an increase of \$5 for minor programatic adjustment. FY 1998 decrease consists of \$240 thousand for Congressional undistributed adjustments and \$19 thousand for economic adjustments. FY 1999 increase consists of \$232 thousand for Navy Working Capital Fund (NWCF) adjustments; and a decrease of \$191 thousand for inflation adjustments.

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E: Not Applicable

D. (U) SCHEDULE PROFILE: Not Applicable

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 8 of 16)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0568
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Flight Hours

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. NAWC/ONR/NSWC Flight Hours	5,517	8,348	10,721
b. DLA Flight Hours	104	116	123
c. Simulator Training	25	0	0
Total	5,646	8,464	10,844

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 9 of 16)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0568
 PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Flight Hours

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	* Total FY 1996 & Prior	FY 1997 Budget	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Product Development										
NAWCAD PAX	WX	10/98	CONT.	CONT.	25,198	1,700	3,163	4,305	CONT.	CONT.
NAWCWD MUGU	WX	10/98	CONT.	CONT.	18,191	2,233	2,335	3,157	CONT.	CONT.
NRL FSD PAX	WX	10/98	CONT.	CONT.	10,294	710	1,504	2,039	CONT.	CONT.
All other efforts less than \$1.0M (Aggregate Total)										
MISC	WX,RX,MP	10/98	CONT.	CONT.	13,074	1,003	1,462	1,343	CONT.	CONT.

Support and Management: Not Applicable
 Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Subtotal Production Development	66,757	5,646	8,464	10,844	CONT.	CONT.
Subtotal Support and Management	0	0	0	0	CONT.	CONT.
Subtotal Test and Evaluation	0	0	0	0	CONT.	CONT.
Total Project	66,757	5,646	8,464	10,844	CONT.	CONT.

C. (U) FUNDING PROFILE: Not applicable

* This ongoing program has existed since prior to 1975. Detailed execution data is not available prior to 1991.

R-1 Item No. 143

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
 (Exhibit R-3, Page 10 of 16)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support

(U) COST: (Dollars in Thousands)

PROJECT

NUMBER & TITLE	FY 1997 ESTIMATE	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W0569 RDT&E Aircraft Support	31,977	25,281	33,872	33,798	33,877	34,975	36,089	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: RDT&E Aircraft Support. This continuing project funds costs associated with Navy Research, Development, Test and Evaluation (RDT&E) fixed and rotary wing aircraft which accommodate test and evaluation of aircraft/weapon systems. Testing aboard these platforms reduces the number of fleet units required to support RDT&E efforts. Included in these costs are Aviation Depot-Level Repairables (AVDLRs), which are spare and replacement aircraft parts and components. Starting in FY 1998, AVDLR costs have been reclassified as direct (customer-funded) costs, and a portion of the AVDLR funding to support customer programs has been redistributed to customers. The remainder of AVDLR funding has been retained in the account to support overhead (proficiency and training) flight hours, as well as residual project flying. This project also funds airframe Standard Depot Level Maintenance (SDLM), in-service repairs, modifications, emergency repairs, and engine repair, as well as aircraft material condition and field inspections. Additionally, it funds Individual Material Readiness List (IMRL) tools and support equipment, modification of in-service aircraft, and other systems for application to and compatibility with RDT&E requirements. Special Flight Test Instrumentation Pool (SFTIP) equipment, shared by programs to reduce or eliminate procurement lead times and save money, is also supported. The project also funds modifications and upgrades of RDT&E P3 engines, landing gear, and avionics. Operation and implementation of numerous maintenance and material management programs are also supported.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$31,977) The following programs were supported at a level which met only a portion of forecast requirements: SDLM, AVDLR, IMRL, engine, and in-service repair support and modifications of aircraft in the RDT&E inventory. Operation of maintenance and material management programs at Naval Air Warfare Center activities continued at the minimum safe level. Deferral of required engine repair resulted in slippage into FY98, increasing the requirement in that fiscal year. A mid-year Below Threshold Reprogramming (BTR) of \$1996 thousand in conjunction with deferral of required engine repairs ensured that sufficient AVDLR funds were available to meet program testing requirements.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0569
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Support

2. (U) FY 1998 PLAN:

- (U) (\$25,281) The following programs will be supported at a level which will meet approximately 80% of forecast requirements: SDLM, AVDLR, IMRL, engine, and in-service repair support and modifications of aircraft in the RDT&E inventory. Required engine repairs deferred to FY98 will be accomplished, with some deferrals of FY98 work to FY99. Consistent with an OSD policy change, customers will commence funding a portion of AVDLR costs incurred. Operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities will continue.

3. (U) FY 1999 PLAN:

- (U) (\$33,872) The following programs are fully funded as they are currently planned, but could face shortfalls as the Navy continues to develop the transition from ASPA/SDLM to the PDM program: SDLM, AVDLR, IMRL, engine, and in-service repair support and modifications of aircraft in the RDT&E inventory. Required AVDLRs and SLDMS deferred to FY99 will be accomplished. Operation and implementation of maintenance and material management programs at Naval Air Warfare Center activities will continue.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0569
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Support

B. (U) PROGRAM CHANGE SUMMARY:	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget	30,090	26,146	31,310
(U) Appropriated Value:	30,024	26,146	
(U) Adjustments from PRESBUDG:	1,887	-865	2,562
(U) FY 1999 President's Budget Submit	31,977	25,281	33,872

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 increase consists of \$1,996 thousand higher Navy priorities adjustment; offset by decreases of \$66 thousand for the Small Business Innovation Research (SBIR) assessment, \$37 thousand for economic adjustments and \$6 thousand for Congressional undistributed reduction. FY 1998 decrease consists of \$807 thousand for Congressional undistributed reductions and \$58 thousand for economic adjustments. FY 1999 increase consists of \$3,400 thousand AVDLR program adjustment; \$307 thousand for the Navy Working Capital Fund (NWCF) adjustments; offset by decreases of \$554 thousand reprogrammed for high Navy priority; and \$591 thousand for inflation adjustment.

(U) Schedule: Not Applicable

(U) Technical: Not Applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E: Not Applicable

D. (U) SCHEDULE PROFILE: Not Applicable

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0569
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Support

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Aircraft In-Service Repair	1,743	1,500	1,545
b. Aircraft SDLM	1,048	8,000	10,500
c. AVDLR	25,582	10,439	15,809
d. Engine Depot Repair	1,593	3,000	3,605
e. IMRL Equipment	54	375	386
f. SFTIP	700	1,100	1,133
g. Support and Initiatives	1,257	867	894
Total	31,977	25,281	33,872

R-1 Item No. 143

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 14 of 16)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0569
 PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Support

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	* Total FY 1996 & Prior	FY 1997 Budget	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Product Development										
NADOC PAX	PD	10/98	CONT.	CONT.	94,120	**				
NAWCWD MUGU	WX	10/98	CONT.	CONT.	34,307	**				
NAWCWD C/L	WX	10/98	CONT.	CONT.	32,261	**				
NAWCAD PAX	WX	10/98	CONT.	CONT.	94,405	755	1,100	1,133	CONT.	CONT.
NADEP CP	WX,PX	10/98	CONT.	CONT.		882	3,962	4,980	CONT.	CONT.
NADEP JAX	WX,PX	10/98	CONT.	CONT.		3,316	4,328	5,056	CONT.	CONT.
NADEP NI	WX,PX	10/98	CONT.	CONT.		1,305	4,130	5,614	CONT.	CONT.
NAVICP	PD	10/98	CONT.	CONT.		24,193	10,439	15,809	CONT.	CONT.
All other efforts less than \$1.0M (Aggregate Total)										
MISC.	WX,RC,PD	10/98	CONT.	CONT.	27,294	1,526	1,322	1,280	CONT.	CONT.

Support and Management: Not Applicable

Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

* This ongoing program has existed since prior to 1975. Detailed execution data is not available prior to 1991.

** Effective FY 1997, exhibit has been changed to reflect correct performing activity.

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605863N PROJECT NUMBER: W0569
PROGRAM ELEMENT TITLE: RDT&E,N Ship and Aircraft Support PROJECT TITLE: RDT&E Aircraft Support

	* Total FY 1996 & Prior	FY 1997 Budget	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Subtotal Product Development	282,387	31,977	25,281	33,872	CONT.	CONT.
Subtotal Support and Management	0	0	0	0	CONT.	CONT.
Subtotal Test and Evaluation	0	0	0	0	CONT.	CONT.
Total Project	282,387	31,977	25,281	33,872	CONT.	CONT.

* This ongoing program has existed since prior to 1975. Detailed execution data is not available prior to 1991.

C. (U) FUNDING PROFILE: Not applicable

R-1 Item No. 143

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 16 of 16)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROGRAM ELEMENT TITLE: Test and Evaluation Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W0541 Atlantic Undersea Test and Evaluation Center (AUTEK)	42,949	41,959	47,538	48,319	48,125	49,480	50,741	CONT.	CONT.
W0653 Naval Air Warfare Center Weapons Division	115,834	126,149	129,917	138,446	139,116	143,135	146,687	CONT.	CONT.
W0654 Naval Air Warfare Center Aircraft Division	73,232	86,530	83,146	88,427	88,635	91,187	93,502	CONT.	CONT.
W2330 Safety and Survivability	999	0							
W2426 Safety and Survivability	0	971							
TOTAL	233,014	255,609	260,601	275,192	275,876	283,802	290,930	CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides institutional maintenance and operational support for: the Naval Undersea Warfare Center Detachment Atlantic Undersea Test and Evaluation Center (NAVUNSEAWARCEN DET AUTEK), Andros Island, Bahamas; the Naval Air Warfare Center Weapons Division (NAVAIRWARCENWPNDIV), Point Mugu and China Lake, CA; the Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV), Patuxent River, MD and Trenton, NJ; and the Congressionally mandated Safety and Survivability Program. The Test and Evaluation (T&E) activities make up the Navy portion of the Department of Defense's Major Range and Test Facility Bases (MRTFB). These activities are chartered to perform T&E for the development and acquisition of technologically advanced weapons systems. Core T&E capabilities and capacity are operated to obtain weapons system performance documentation for acquisition program milestone decisions to provide operational forces with effective weapon systems. This project supports acquisition programs and fleet support by keeping customers' cost low and, at the same time, keeping required T&E facilities, instrumentation and other resources in place. By providing the Navy Acquisition Program Managers the test capabilities required when needed this project removes the cost and schedule impact of providing their own T&E resources and retains the physical airspace, landspace, and seaspace needed to conduct testing.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under Research, Development, Test and Evaluation management support to fund the operations and installations required for general research and development use.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROGRAM ELEMENT TITLE: Test and Evaluation Support

(U) COST (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W0541 Atlantic Undersea Test and Evaluation Support (AUTEK)	42,949	41,959	47,538	48,319	48,125	49,480	50,741	CONT	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: AUTEK provides a deep water Test and Evaluation (T&E) facility for collecting selected underwater, surface and air tracking data on test participants. NAVUNSEAWARCEN DET AUTEK, Andros Island, Bahamas, includes the Weapons Range, Fleet Operational Readiness Accuracy Check Site, Weapons Acoustic Measurement Capability and an Ocean Haul Down Facility for large buoyant bodies. The Weapons Range provides three-dimensional (undersea, surface, and air) precision tracking capability in support of Anti-Submarine Warfare Development trials. The Fleet Operational Readiness Accuracy Check Site provides the capability to accurately calibrate and align electronic optical, acoustic, and navigational systems installed on submarines, surface ships and helicopters. The NAVUNSEAWARCEN DET AUTEK at West Palm Beach, Florida provides technical expertise in tracking systems, liaison and test planning with range users, test scheduling, and logistic support.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$22,539) Continued to maintain core Major Range Test and Facility Base (MRTFB) capabilities to meet customers' test workload. Continued to operate and maintain the physical plant, essential technical test support instrumentation, marine craft, and critical spares inventory. Supported only priority maintenance and repair efforts. Performed contract administration support.

(U) (\$10,946) Continued rental payments to the Bahamian government for use of land and ocean in the Bahamas and lease payments to General Services Administration (GSA) for facilities at West Palm Beach.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 2 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0541

PROGRAM ELEMENT TITLE: Test and Evaluation Support
PROJECT TITLE: Atlantic Undersea Test
and Evaluation Center

- (U) (\$9,458) Continued civilian pay, travel, utility, petroleum, oil and lubricants (POL), supply, transportation and general and administrative efforts required to maintain and operate AUTEK resources and capabilities.
- (U) (\$6) Reprogrammed for higher Navy priorities.

2. (U) FY 1998 PLAN:

- (U) (\$21,317) Continue to maintain core test support resources, instrumentation systems, and marine craft required to perform AUTEK's mission. Continue to support only priority maintenance and repair efforts and defer all but those maintenance and repair efforts which impact personnel or equipment safety. Reduce spare and repair part inventories. Perform contract administrative support.
- (U) (\$10,800) Continue rental payments to the Bahamian government for use of land and ocean in the Bahamas and lease payments to GSA for facilities at West Palm Beach.
- (U) (\$9,842) Continue civilian pay, travel, utility, POL, supply, transportation and general and administrative efforts required to maintain and operate AUTEK resources and capabilities.

3. (U) FY 1999 PLAN:

- (U) (\$26,273) Continue to operate and maintain core test support assets, instrumentation systems, and marine craft required to perform AUTEK mission. Replenish spares' inventory to minimum levels. Increase the level of maintenance and repair efforts to perform high priority items deferred from previous years. Perform contract administrative support.
- (U) (\$10,875) Continue rental payments to the Bahamian government for use of land and ocean in the Bahamas and lease payments to GSA for facilities at West Palm Beach.
- (U) (\$10,390) Continue civilian pay, travel, utility, POL, supply, transportation, and general and administrative efforts required to maintain and operate AUTEK resources and capabilities.

R-1 Item No.144

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 3 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0541

PROGRAM ELEMENT TITLE: Test and Evaluation Support PROJECT TITLE: Atlantic Undersea Test and Evaluation Center

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	43,250	46,482	47,936
(U) Appropriated Value:	45,094		
(U) Adjustments from PRESBUDG:	-301	-4,523	-398
(U) FY 1999 President's Budget Submit:	42,949	41,959	47,538

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) Funding: FY 1997 reflect decreases of \$242 thousand for Small Business Innovative Research (SBIR), \$53 thousand for economic adjustment and \$6 thousand for Navy higher priority. FY 1998 reflect decreases of \$1,187 thousand for Congressional undistributed adjustments, \$96 thousand for economic adjustment, and \$3,240 thousand for Congressional adjustment. FY 1999 reflect increase of \$524 thousand for Navy Capital Working Fund (NWCF); offset by \$835 thousand for economic adjustment and \$87 thousand for affordability adjustment.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable.

(U) RELATED RDT&E:

(U) PE 0604759N, Major T&E Investment

(U) PE 0605862N, RDT&E Instrumentation Modernization

D. (U) SCHEDULE PROFILE: Not applicable.

R-1 Item No.144

Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKOUT

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N PROJECT NUMBER: W0541
PROGRAM ELEMENT TITLE: Test and Evaluation Support PROJECT TITLE: Atlantic Undersea Test
and Evaluation Center

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

<u>Project Cost Categories</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Civilian Pay	2,445	2,520	2,595
b. General and Administrative	708	792	830
c. Supplies	1,595	1,680	1,765
d. Facilities Rental (Bahamian/West Palm Beach)* 10,946	10,800	10,875	
e. Petroleum, Oil and Lubricant (POL)	1,575	1,585	1,740
f. Transportation	2,000	2,100	2,205
g. Aircraft POL	522	525	580
h. Other Purchased Services	22,539	21,317	26,273
i. Other MRTFB Expenses (Travel, communications, Ships POL)	613	640	675
j. Reprogramming	6	0	0
Total	42,949	41,959	47,538

* Bahamian Government Lease: \$10,050 thousand per Fiscal Year.

** FY 1998 decrease in funds requires AUTEK to reduce the spare/repair parts inventory without replenishment and deferred all maintenance and repair efforts.

*** FY 1999 increase in funds is to fund 3 years of deferred ,maintenance and backlog of overhauls.

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Exhibit R-3, Program Element/Project Cost Breakdown
(Exhibit R-3, 5 of 27)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0541

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Atlantic Undersea Test and Evaluation Center

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS:

<u>Contractor/ Government Performing Activity</u>	<u>Contract Method/ Fund Type Vehicle</u>	<u>Award/ Oblig Date</u>	<u>Perform Activity EAC</u>	<u>Project Office EAC</u>	<u>Total FY 1996 & Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
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Product Development:

NAVFAC	RX	10/98	TBD	TBD	120,600	10,050	10,050	10,050	CONT.	CONT.
AUTEC	WX	10/98	TBD	TBD	681,205	31,426	31,909	37,488	CONT.	CONT.

Miscellaneous Government (less than \$1M):

Support and Management: Not Applicable

Test and Evaluation: Not Applicable

1,473 0 0 0 1,473

GOVERNMENT FURNISHED PROPERTY: Not Applicable

	<u>Total FY 1996 & Prior</u>	<u>FY 1997 Actual</u>	<u>FY 1998 Budget</u>	<u>FY 1999 Budget</u>	<u>To Complete</u>	<u>Total Program</u>
Subtotal Production Development	801,805	42,949	41,959	47,538	CONT.	CONT.
Total Project	801,805	42,949	41,959	47,538	CONT.	CONT.

C. (U) FUNDING PROFILE: Not applicable.

R-1 Item No.144

Exhibit R-3, Program Element/Project Cost Breakdown
(Exhibit R-3, 6 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROGRAM ELEMENT TITLE: Test and Evaluation Support

(U) COST (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W0653 Naval Air Warfare Center Weapons Division (NAVAIRWARCENWPNDIV)	115,834	126,149	129,917	138,446	139,116	143,135	146,687	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides maintenance and operational support for the NAVAIRWARCENWPNDIV Pacific Ranges consisting of China Lake Land Ranges and Point Mugu Sea Range. The Pacific Ranges use China Lake's 1.1 million acres of land and 17,000 square miles of military restricted (R-2508) airspace together with Point Mugu's 125,000 square miles of instrumented sea range and 36,000 square miles of controlled overlying airspace; a neighboring deep draft port facility at Port Hueneme, and the offshore airfield and test instrumentation at Sea Range to perform its Test and Evaluation mission. The Point Mugu Sea Range has unique sea, mountain, and instrumented offshore islands, as well as the interconnectivity needed to support large complex operations. The China Lake air ranges contain unique terrain features, and are instrumented for both low level and high altitude missile and weapon system testing. The Electronic Combat Range (ECR) at China Lake provides outdoor free space development and operational testing of airborne electronic warfare (EW) systems and tactics against shipboard and land site air defense systems over a land range of 700 square miles. These ranges perform metric radar, multilateration and optical tracking of test objects; command, control, and destruct for range safety purposes; communications; frequency interference control and analysis; collection processing and display of telemetered data; real-time data processing and display; and the operation of full scale aerial target launch capability. Other test capabilities include a static Radar Cross Section (RCS) measurement facility; propulsion, warhead, environmental, rocket motor, and other missile component test facilities; parachute/weapon recovery system test facilities; gun ranges; and weapon system survivability. This project also supports the R-2508 Air Space Control System, annual lease for offshore islands, remote location instrumentation sites, and Host Tenant Agreement costs.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 7 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0653

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Weapons Division

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$56,540) Operated core MRTFB capabilities required to meet acquisition program and fleet test workload. Supported essential components of indirect civilian salary and contractor costs required to manage, operate, and maintain Pacific Ranges' Sea, Air, Ground, Electronic Combat, Propulsion, Warhead, and Environmental test facilities, operational target vehicle launch functions and aircraft maintenance. Supported elements of Naval Air Weapons Station MRTFB functions including air operations and Public Works vehicle transportation costs. Customers were required to pay for all MRTFB labor and contract costs within the parachute systems, weapons handling and storage, Junction Ranch RCS ranges, Supersonic Naval Ordnance Research Track functions; and a portion of the costs in the sea and air ground ranges. In addition, civil service cost reductions through buyout programs and transfers within the command; along with reductions to contractor maintenance and support services has resulted in test capacity cutbacks and operational readiness deficiencies.
- (U) (\$4,839) Supported continued priority equipment calibration, materials, supplies, technical equipment and spare parts for core range, target instrumentation and equipment systems. Customers were required to pay for all of the technical supplies and equipment within the parachute, weapons handling and storage, Junction Ranch RCS ranges and track functions. Spare parts, technical consummables, and equipment cutbacks have impacted range readiness and delayed tests.
- (U) (\$2,953) Provided transportation, printing, communications, annual leases for offshore island and remote location instrumentation sites, Host Tenant Agreement costs, and critical training necessary to manage and sustain MRTFB operations. Reductions to travel and training supporting both Navy and Tri-service panels, management reviews and technical training required customers to pay more of these costs.
- (U) (\$3,021) Continued MRTFB Real Property Maintenance Activities (RPMA) funding for mission critical emergency call services, road maintenance, and system maintenance to meet customer requirements. No funding was available for repairs and minor construction costing more than \$25K. Charges for facility maintenance, upkeep and repair was for emergencies only. Backlog, Maintenance and Repair (BMAR) and facility readiness was impacted.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0653

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Weapons Division

- (U) (\$3,925) Continued essential support for maintaining R-2508 Air Space Control System and DC-130 target air launch capabilities.
- (U) (\$39,001) Continued annual utility costs, facility service contracts, worker's compensation costs for MRTFB employees, and contribution to Command's General and Administrative (G&A) expenses for comptroller, contracting, personnel and other support services.
- (U) (\$5,555) Provided flight hour costs to maintain basic pilot proficiency in aircraft used to support the MRTFB mission.

2. (U) FY 1998 PLAN:

- (U) (\$58,736) Operate core MRTFB capabilities required to meet acquisition program and fleet test workload. Support indirect civilian salary and contractor costs required to manage, operate, and maintain Pacific Ranges' Sea, Air, Ground, Electronic Combat, Propulsion, Warhead, and Environmental test facilities, operational target vehicle launch functions and aircraft maintenance. Support critical elements of Naval Air Weapons Station MRTFB functions, including air operations and Public Works vehicle transportation costs. Budget increase allows customer assessments to be consistent with the Department of Defense (DoD) policy for parachute systems testing, weapons handling and storage, Junction Ranch RCS ranges, track and the sea and air ground ranges.
- (U) (\$6,041) Support continued priority equipment calibration, materials, supplies, technical equipment and spare parts for core range and target instrumentation and equipment systems. Budget increase allows for standard customer charging for technical supplies and equipment used/expended in the tests utilizing parachutes, weapons handling and storage, Junction Ranch RCS ranges and track functions. In addition, investments for spare parts and technical consumables will be accomplished to maintain a reliable inventory of test instrumentation.
- (U) (\$3,166) Provide essential transportation, printing, communications, annual leases for offshore island and remote location instrumentation sites, Host Tenant Agreement costs, and critical training necessary to manage and sustain MRTFB operations. Travel funding will be increased to attend mission related meetings and to ensure greater cross-site efficiency for operation. Will provide for a slight increase in technical training to cross train engineers and technicians.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0653

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Weapons Division

- (U) (\$6,326) Continue MRTFB RPMA funding for mission critical emergency call services, road maintenance, and system maintenance to meet customer requirements. Funding available for repairs and minor construction costing more than \$25K, and helps reduce the backlog created by prior year funding levels.
- (U) (\$3,995) Continue essential support for maintaining R-2508 Air Space Control System and DC-130 target air launch capabilities.
- (U) (\$42,185) Continue annual utility costs, facility service contracts, worker's compensation costs for MRTFB employees, and contribution to Command's G&A expenses for comptroller, contracting, personnel, other support services.
- (U) (\$5,700) Provide flight hour costs to maintain basic pilot proficiency in aircraft used to support the MRTFB mission.

3. (U) FY 1999 PLAN:

- (U) (\$59,557) Operate core MRTFB capabilities required to meet acquisition program and fleet test workload. Support essential components of indirect civilian salary and contractor costs required to manage, operate, and maintain Pacific Ranges' Sea, Air, Ground, Electronic Combat, Propulsion, Warhead, and Environmental test facilities, operational target vehicle launch functions and aircraft maintenance. Support critical elements of Naval Air Weapons Station MRTFB functions including air operations and Public Works vehicle transportation costs. Additional MRTFB contract cost increases will compensate for the loss of military operating boats on the Sea Range. Transition to outsourcing of range and target operations will result in one time employee separation costs.
- (U) (\$9,290) Support continued priority equipment calibration, materials, supplies, technical equipment and spare parts for core range and target instrumentation and equipment systems. Budget allows customer assessments to be consistent with DoD customer charging policies.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 10 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0653

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Weapons Division

- (U) (\$3,295) Provide transportation, printing, communications, annual leases for offshore island and remote location instrumentation sites, Host Tenant Agreement costs, and critical training necessary to manage and sustain MRTFB operations.
- (U) (\$6,540) Continue MRTFB RPMA funding for mission emergency call services, road maintenance, system maintenance, major repairs and minor construction to meet customer requirements and prolong the life of the physical plant at a minimal investment level.
- (U) (\$4,065) Continue essential support for maintaining R-2508 Air Space Control System and DC-130 target air launch capabilities.
- (U) (\$41,370) Continue annual utility costs, facility service contracts, worker's compensation costs for MRTFB employees, and contribution to Command's G&A expenses for comptroller, contracting, personnel, and other support services.
- (U) (\$5,800) Provide flight hour costs to maintain basic pilot proficiency in aircraft used to support the MRTFB mission.

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	116,326	131,792	136,532
(U) Appropriated Value:	121,290		
(U) Adjustments from PRESBUDG:	-492	- 5,643	-6,615
(U) FY 1999 President's Budget Submit:	115,834	126,149	129,917

R-1 Item No.144

Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N PROJECT NUMBER: W0653
PROGRAM ELEMENT TITLE: Test and Evaluation Support PROJECT TITLE: Naval Air Warfare Center
Weapons Division

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) FY 1997 reflects increase of \$80 thousand for higher Navy priority; offset by decreases of \$422 thousand for Small Business Innovative Research, \$142 thousand for economic adjustment and \$8 thousand for programmatic adjustment. FY 1998 reflect increase of \$7,000 thousand for reprogramming required to fully fund minimal Test and Evaluations (T&E); offset by decreases of \$3,371 thousand for Congressional undistributed adjustments, \$272 thousand for economic adjustment, and \$9,000 thousand for Congressional adjustment. FY 1999 reflects increase of \$1,071 thousand for Navy Working Capital Fund (NWCF) adjustments and \$5,488 thousand for program reduction.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable.

(U) RELATED RDT&E:

- (U) PE 0604759N, Major T&E Investment
- (U) PE 0605862N, RDT&E Instrumentation Modernization
- (U) PE 0604256N, Threat Simulator Development
- (U) PE 0604258N, Target Systems Development

D. (U) SCHEDULE PROFILE: Not Applicable.

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Exhibit R-2, RDT&E Budget Item Justification
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1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0653

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center,
Weapons Divison

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

<u>Project Cost Categories</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Civilian Pay	43,305	44,609	44,268
b. General and Administrative	35,377	38,481	37,585
c. Equipment and Supplies	4,456	5,528	8,766
d. Equipment Maintenance	5,545	6,367	7,004
e. MRTFB Flight Hours	5,555	5,700	5,800
f. DC-130	1,625	1,625	1,625
g. Facility Repairs	2,997	6,302	6,516
h. Range Operations and Support Services	10,247	10,516	11,113
i. Other MRTFB Expenses	2,180	2,263	2,382
j. Communications	923	1,054	1,073
k. Utilities	3,624	3,704	3,785
Total	115,834	126,149	129,917

* FY 1998 - Activity operated at MRTFB requirements budget level of \$124,034. The difference between control totals and operating budget of \$8,200 was made up by the aggressive use of rated service accounts, which was contrary to DoD standard customer charging policy.

** Realignment of funds from customer accounts, in accordance with PBD 275, will enable activity to comply with DoD standard customer charging policy by discontinuing the aggressive use of rated service accounts.

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdwon
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0653

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center,
Weapons Division

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS:

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Product Development: NAWCWD	WX	10/98	TBD	TBD	2,410,443	115,212	126,149	129,917	CONT.	CONT.

Miscellaneous Government (less than \$1M): 622 0 0 0 622

Support and Management: Not Applicable

Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Subtotal Production Development	2,410,443	115,834	126,149	129,917	CONT.	CONT.
Total Project	2,410,443	115,834	126,149	129,917	CONT.	CONT.

C. (U) FUNDING PROFILE: Not Required

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdwon
(Exhibit R-3, Page 14 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N
PROGRAM ELEMENT TITLE: Test and Evaluation Support

(U) COST (Dollars in Thousands)

Table with columns: PROJECT NUMBER & TITLE, FY 1997 ACTUAL, FY 1998 ESTIMATE, FY 1999 ESTIMATE, FY 2000 ESTIMATE, FY 2001 ESTIMATE, FY 2002 ESTIMATE, FY 2003 ESTIMATE, TO COMPLETE, TOTAL PROGRAM. Row 1: W0654 Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV) with values 73,232, 86,530, 83,146, 88,427, 88,635, 91,187, 93,502, CONT., CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides funds for the maintenance and operation of the NAVAIRWARCENACDIV's capabilities to conduct test and evaluation and provide fleet support for air platforms. NAVAIRWARCENACDIV has extensive airfield, flight test ranges, aircraft systems test facilities and simulation laboratories to support aircraft RDT&E. This includes 50,000 square miles of airspace, 39,375 square miles of seaspace, and 7,950 square acres of land space. Product areas include aircraft systems flight test and evaluation, carrier suitability certification, test article preparation, installed system test and evaluation, and modeling and simulation support of the acquisition process. The T&E Group, Patuxent River, performs development test and evaluation and supports operational test and evaluation of manned and unmanned air vehicle systems, including mission systems, equipment, subsystems, components, and support systems. This project also provides test and evaluation facilities for air-breathing propulsion systems and extensive facilities for conducting both installed and uninstalled aircraft engine development and test and evaluation. This project also funds costs not chargeable to the customers.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

(U) (\$23,413) Operated mission essential MRTFB capabilities to meet acquisition programs, research and development, test and evaluation, and fleet customer test owrkload. Supported essential elements of civilian labor required to manage, operate, and maintain the MRTFB.

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Exhibit R-2, RDT&E Budget Item Justification (Exhibit R-2, Page 15 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0654

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Aircraft Division

- (U) (\$5,991) Provided essential travel, transportation, collateral equipment, and supplies required to support the MRTFB. Continued payment of worker's compensation costs for MRTFB employees. Supported the Safety and Survivability non-developmental items project.
 - (U) (\$5,937) Continued communications, purchased equipment maintenance, printing and reproduction, and purchased service contracts necessary to manage and sustain MRTFB operations. Current budget requires customers to pay for Test Article Preparation including Aircraft Instrumentation, Mechanical Prototyping and Fabrication, Mechanical Design and Fabrication in support of uninstalled engine tests and additional costs in range and test facilities.
 - (U) (\$7,133) Continued maintenance and repair of MRTFB facilities.
 - (U) (\$2,366) Provided major repair for essential MRTFB capabilities.
 - (U) (\$9,034) Provided flight hour costs to maintain pilot proficiency in aircraft used to support MRTFB mission.
 - (U) (\$16,573) Reimbursed the Command for essential General and Administrative support services, (e.g., comptroller, contracting, personnel and other services).
 - (U) (\$2,785) Continued mission essential annual utility costs, equipment rentals, and land, building, and facility leases.
2. (U) FY 1998 PLAN:
- (U) (\$23,298) Operate mission essential MRTFB capabilities to meet customers' test workload. Support essential elements of civilian labor required to manage, operate, and maintain the MRTFB.
 - (U) (\$8,314) Provide essential travel, transportation, collateral equipment, and supplies required to support the MRTFB. Continue payment of worker's compensation cost for MRTFB employees. Budget increase allows customer assessments to be consistent with DoD standard charging policy for itmes used/expended during tests.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 16 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0654

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Aircraft Division

- (U) (\$11,708) Continue communications, purchased equipment maintenance, printing and reproduction, and purchased service contracts necessary to manage and sustain MRTFB operations. Provide support for Modeling and Simulation efforts. Budget increase allows customer assessments to be consistent with DoD standard customer charging policy for Test Article Preparation, including Aircraft Instrumentation, Mechanical Prototyping and Fabrication, Mechanical Design and Fabrication in support of uninstalled engine tests.
- (U) (\$7,403) Continue maintenance and repair of MRTFB facilities.
- (U) (\$167) Provide minor construction and major repair for essential MRTFB capabilities.
- (U) (\$9,606) Provide flight hour costs to maintain pilot proficiency in aircraft used to support MRTFB mission.
- (U) (\$20,174) Reimburse the Command for essential General and Administrative support services, (e.g., comptroller, contracting, personnel, and other services). Increase is an outcome of the G&A allocation study completed by the Aircraft Division.
- (U) (\$5,860) Continue mission essential annual utility costs, equipment rentals, and land, building, and facility leases.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0654

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Aircraft Division

3. (U) FY 1999 PLAN:

- (U) (\$20,761) Operate mission essential MRTFB capabilities to meet customer test workload. Support essential elements of civilian labor required to manage, operate, and maintain the MRTFB.
- (U) (\$7,352) Provide travel, transportation, collateral equipment, and supplies required to support continued operations of the MRTFB.
- (U) (\$6,488) Continue communications, purchased equipment maintenance, printing and reproduction, and purchased service contracts necessary to manage and sustain MRTFB operations.
- (U) (\$7,305) Continue maintenance and repair of MRTFB facilities.
- (U) (\$3,749) Provide minor construction and major repair to essential MRTFB capabilities. Budget increased to reduce backlog of maintenance and repair items and sustain operational capabilities.
- (U) (\$10,226) Provide flight hour costs to maintain pilot proficiency in aircraft used to support MRTFB mission.
- (U) (\$22,000) Reimburse the Command for essential General and Administrative support services, (e.g., comptroller, contracting, personnel, and other services).
- (U) (\$5,265) Continue mission essential annual utility costs, equipment rentals, and land, building, and facility leases.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 18 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0654

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare Center
Aircraft Division

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	74,331	85,660	88,156
(U) Appropriated Value:	76,507		
(U) Adjustments from PRESBDG:	-1,099	+870	3,910
(U) FY 1999 President's Budget Submit:	73,232	86,530	83,146

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) Funding: FY 1997 reflect decreases of \$90 thousand for economic adjustments, and \$1,009 for higher Navy priority. FY 1998 reflects increase of \$9,000 thousand for reprogramming required to fully fund minimal Test and Evaluations (T&E); offset by decreases for \$2,193 thousand Congressional undistributed adjustments, \$177 thousand for economic adjustment, and \$5,760 thousand for program adjustment. FY 1999 reflect increases of \$669 thousand for Navy Working Capital Fund adjustments and \$392 thousand for programmatic adjustments; offset by decreases of \$1,459 thousand for economic adjustment, and \$3,512 thousand, program reduction.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E:

(U) PE 0604759N, Major T&E Investment

(U) PE 0605862N, RDT&E Instrumentation Modernization

D. (U) SCHEDULE PROFILE: Not Applicable.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 19 of 27)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W0654

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Naval Air Warfare
Center, Aircraft Division

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

<u>Project Cost Categories</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Civilian Pay	23,413	23,298	20,761
b. General and Administrative	16,573	20,174	22,000
c. Equipment and Supplies	4,660	7,137	6,549
d. Equipment Maintenance	1,215	4,015	3,856
e. MRTFB Flight Hours	9,034	9,606	10,226
f. Facility Repairs	9,499	7,570	11,054
g. Other MRTFB Expenses*	6,053	8,870	3,435
h. Utilities/Rental	2,785	5,860	5,265
Total	73,232	86,530	83,146

* FY 1998 - Activity operated at MRTFB requirements budget level of \$85,632. The difference between control total and operating budget of \$12,400 was made up by the aggressive use of rated service accounts, which was contrary to DoD standard customer charging policy.

** FY 1999 - Realignment of funds from customer accounts, in accordance with PBD 275, will enable activity to comply with DoD 3200 standard customer charging policy by discontinuing the aggressive use of rated service accounts.

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 20 of 27)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N PROJECT NUMBER: W0654
 PROGRAM ELEMENT TITLE: Test and Evaluation Support PROJECT TITLE: Naval Air Warfare Center,
 Aircraft Division

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS:

Contractor/ Government Performing Activity	Contract Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Product Development:										
NAWCAD	WX	10/98	TBD	TBD	1,571,542	72,881	86,530	83,146	CONT.	CONT.
Miscellaneous (less than \$1M):						351	0	0	0	351
Support and Management: Not Applicable										
Test and Evaluation: Not Applicable										

GOVERNMENT FURNISHED PROPERTY: Not Applicable

	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
Subtotal Production Development	1,571,542	73,232	86,530	83,146	CONT.	CONT.
Total Project	1,571,542	73,232	86,530	83,146	CONT.	CONT.

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Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
 (Exhibit R-3, Page 21 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N
 PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT NUMBER: W2330
 PROJECT TITLE: Safety and Survivability

(U) COST (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
W2330	999	0*	0	0	0	0	0	0	999

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides funds for Non-Developmental Safety and Survivability Items.

* FY 1998 funding ransferred to Project Number W2426

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$999) Supported the Congressionally mandated Non-Developmental Safety and Survivability Project.

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	0	0	0
(U) Appropriated Value:	1,000	0	0
(U) Adjustments from PRESBUDG:	999	0	0
(U) FY 1999 President's Budget Submit:	999	0	0

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Exhibit R-2, RDT&E Budget Item Justification
 (Exhibit R-2, Page 22 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W2330

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Safety and Survivability

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) Funding: FY 1997 reflects an increase of \$999 thousand adjustment that segregated the funds for the Safety and Survivability project.

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E: Not Applicable

D. (U) SCHEDULE PROFILE: Not Applicable.

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Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 23 of 27)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W 2330

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Safety and Survivability

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

<u>Project Cost Categories</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Non-Developmental Safety & Surviv.	999	0	0
Total	999	0	0

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS:

Contractor/ Contract

Government Performing Activity	Method/ Fund Type Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY 1996 & Prior	FY 1997 Actual	FY 1998 Budget	FY 1999 Budget	To Complete	Total Program
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Miscellaneous (less than \$1M):	0	999	0	0	0	0	0	0	999
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Support and Management: Not Applicable

Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

C. (U) FUNDING PROFILE: Not applicable.

R-1 Item No.144

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 24 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605864N

PROJECT NUMBER: W2426

PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT TITLE: Safety and Survivability

PROJECT NUMBER & TITLE	<u>FY 1997 ACTUAL</u>	<u>FY 1998 ESTIMATE</u>	<u>FY 1999 ESTIMATE</u>	<u>FY 2000 ESTIMATE</u>	<u>FY 2001 ESTIMATE</u>	<u>FY 2002 ESTIMATE</u>	<u>FY 2003 ESTIMATE</u>	<u>TO COMPLETE</u>	<u>TOTAL PROGRAM</u>
W2426	0	971*	0	0	0	0	0	0	971

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides funds for Non-Developmental Safety and Survivability Items.

* FY 1997 effort was covered under Project Number W2330.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1998 PLANS:

(U) (\$971) Support the Congressionally mandated Non-Developmental Safety and Survivability Project.

B. (U) PROGRAM CHANGE SUMMARY: (Dollars in Thousands)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	0	0	0
(U) Appropriated Value:	0	0	0
(U) Adjustments from PRESBUDG:	0	971	0
(U) FY 1999 President's Budget Submit:	0	971	0

(U) CHANGE SUMMARY EXPLANATION: (Dollars in Thousands)

(U) Funding: FY 1998 reflects an increase of \$971 thousand for a Congressional adjustment.

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Exhibit R-2, RDT&E Budget Item Justification
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N
PROGRAM ELEMENT TITLE: Test and Evaluation Support

PROJECT NUMBER: W2426
PROJECT TITLE: Safety and Survivability

(U) Schedule: Not Applicable.

(U) Technical: Not Applicable

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) RELATED RDT&E: Not Applicable

D. (U) SCHEDULE PROFILE: Not Applicable.

R-1 Item No.144

Exhibit R-2, RDT&E Budget Item Justification
(Exhibit R-2, Page 26 of 27)

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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT: 0605864N PROJECT NUMBER: W 2426
PROGRAM ELEMENT TITLE: Test and Evaluation Support PROJECT TITLE: Safety and Survivability

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

<u>Project Cost Categories</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Non-Developmental Safety & Surviv.	0	971	0
Total	0	971	0

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

PERFORMING ORGANIZATIONS:

<u>Contractor/</u> <u>Government</u>	<u>Contract</u> <u>Method/</u>	<u>Award/</u> <u>Oblig</u>	<u>Perform</u> <u>Activity</u>	<u>Project</u> <u>Office</u>	<u>Total</u> <u>FY 1996</u>	<u>FY 1997</u> <u>Actual</u>	<u>FY 1998</u> <u>Budget</u>	<u>FY 1999</u> <u>Budget</u>	<u>To</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>& Prior</u>					
Miscellaneous (less than \$1M):					0	0	971	0	0	971

Support and Management: Not Applicable

Test and Evaluation: Not Applicable

GOVERNMENT FURNISHED PROPERTY: Not Applicable

C. (U) FUNDING PROFILE: Not Required.

R-1 Item No.144

Exhibit R-3, RDT&E Program Element/Project Cost Breakdown
(Exhibit R-3, Page 27 of 27)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605865N

PROGRAM ELEMENT TITLE: Operational Test and Evaluation Capability

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0831	Operational Test and Evaluation Force Support								
	7,966	8,773	9,194	9,468	9,367	9,491	9,623	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program element provides Commander, Operational Test and Evaluation Force (COMOPTEVFOR) general support funding for the planning, conducting, and reporting of operational test and evaluation of Navy weapon systems acquisition projects, and the validation of tactics as required by directives of the Secretary of Defense and by Public Law.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$5,975) Operationally tested and evaluated CNO projects commensurate with authorized funding level.
- (U) (\$1,991) Maintained level of effort associated with the DOD 5000 acquisition guidance which requires increased COMOPTEVFOR involvement in early operational assessments, developmental testing, and the Cost and Operational Effectiveness Analysis (COEA).

R-1 Line Item 145

Budget Item Justification
(Exhibit R-2, page 1 of 4)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605865N

PROJECT NUMBER: R0831

PROGRAM ELEMENT TITLE: Operational Test and
Evaluation Capability

PROJECT TITLE: Operational Test and Evaluation
Force Support

2. (U) FY 1998 PLAN:

- (U) (\$6,580) Operationally test and evaluate CNO projects commensurate with authorized funding level.
- (U) (\$2,193) Maintain level of effort associated with the DOD 5000 acquisition guidance which requires increased COMOPTEVFOR involvement in early operational assessments, developmental testing, and the COEA.

3. (U) FY 1999 PLAN:

- (U) (\$6,896) Operationally test and evaluate CNO projects commensurate with authorized funding level.
- (U) (\$2,298) Maintain level of effort associated with the DOD 5000 acquisition guidance which requires increased COMOPTEVFOR involvement in early operational assessments, developmental testing, and the COEA.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	7,358	9,107	9,154
(U) Appropriated Value:	-	9,107	-
(U) Adjustments from FY 1998 PRESBUDG:	+608	-334	+40
(U) FY 1999 President's Budget Request:	7,966	8,773	9,194

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-35), revised economic assumptions (-7) and update to reflect actual execution (+650). FY 1998 adjustment is due to Congressional Undistributed reductions (-292), economic assumptions (-20) and other minor adjustments (-22). FY 1999 adjustment is due to Navy Working Capital Fund (NWCF) surcharge correction (+29), other NWCF adjustments (-13), inflation adjustment (-159), pay rate adjustment (+197) and other minor adjustments (-14).

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Budget Item Justification
(Exhibit R-2, page 2 of 4)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605865N

PROJECT NUMBER: R0831

PROGRAM ELEMENT TITLE: Operational Test and
Evaluation Capability

PROJECT TITLE: Operational Test and Evaluation
Force Support

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

R-1 Line Item 145

Budget Item Justification
(Exhibit R-2, page 3 of 4)

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605865N

PROJECT NUMBER: R0831

PROGRAM ELEMENT TITLE: Operational Test and
Evaluation Capability

PROJECT TITLE: Operational Test and Evaluation
Force Support

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Budget Item Justification
(Exhibit R-2, page 4 of 4)

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N

DATE: February 1998

PROGRAM ELEMENT TITLE: Navy Space and Electronic Warfare (SEW) Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0739 Navy C4I Top Level Requirements	679	950	1,611	1,617	1,653	1,704	1,720	CONT.	CONT.
X0706 EMI Reduction and Radio Frequency Management	1,497	1,571	1,866	699	737	772	712	CONT.	CONT.
Total	2,176	2,521	3,477	2,316	2,390	2,476	2,432	CONT.	CONT.

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Project R0739 Navy C4I Top Level Requirements - Analyzes fleet requirements and research and development technology to develop top level plans for operating Navy Communications, Command and Control Computers, and Intelligence (C4I) and space systems in the Space and Electronic Warfare (SEW) mission area. Project X0706 Electromagnetic Interference (EMI) Reduction and Radio Frequency (RF) Management develops advanced technology to identify and reduce EMI sources from Navy systems and platforms.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N

DATE: February 1998

PROGRAM ELEMENT TITLE: SEW Support

Project Number: R0739

Project Title: Navy C4I Top Level Requirements

(U) RESOURCES: (Dollars in Thousands)
PROJECT

NUMBER TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R0739 Navy Command Control, Communications, Computers and Intelligence C4I Top Level Requirements	679	950	1,611	1,617	1,653	1,704	1,720	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides analysis of fleet requirements and research and development technology to develop top level plans for operating Navy Communications, C4I and space systems in the Space and Electronic Warfare mission area.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$115) Identified programs and actions needed to provide networking of C4I systems, e.g. enhanced multilevel security, network management and mine warfare C4I.
- (U) (\$89) Strategized overall planning, mapping, and design for the Tactical Aircraft Mission Planning System (TAMPS).
- (U) (\$93) Funded multi-level security demonstration during Joint Warfare Interoperability Demonstration 97 (JWID 97).

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N
PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998
Project Number: R0739
Project Title: Navy C4I Top Level
Requirements

- (U) (\$136) Investigated potential benefit of Telemedicine initiative for Navy-wide applicability.
- (U) (\$85) Supported architectural analysis for All Services Combat Identification Evaluation (ASCIET) Program.
- (U) (\$161) Identified programs and actions needed to provide joint capabilities for C4I architecture, e.g., enhanced near real-time targeting, real-time joint planning/coordination, early intelligence preparation of battle space, and hardkill/softkill weapons.

2. (U) FY 1998 PLAN:

- (U) (\$65) Analyze and develop new educational requirements associated with development of an Information Warfare Professional Program with its associated restructured Naval Postgraduate School curricula and restructuring of subspecialty program database.
- (U) (\$100) Analyze and identify C4ISR parameters of greatest payoff in strike operations effectiveness.
- (U) (\$143) Conduct study and develop System Operational manual for the Global Broadcast System.
- (U) (\$150) Conduct study and develop methodology for sorting through the various emerging commercial satellite communications systems coming on line to determine which is the most cost-effective through model analysis.
- (U) (\$104) Analyze and assess the need for and a prototype of a real-time processing Common Operating Environment kernel.
- (U) (\$130) Conduct study and develop a long term roadmap for the development of a single architecture to provide pre-mission planning support and real time information and replanning capability to the warfighter.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N
PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998
Project Number: R0739
Project Title: Navy C4I Top Level
Requirements

- (U) (\$108) Analyze and determine effects of employment of Complementary Technology and Complementary Processing would have on the speed and efficiency of data processing and system performance.
- (U) (\$150) Conduct study to determine effects of employment of Complementary Technology and Complementary Processing would have on the speed and efficiency of data processing and system performance.

3. (U) FY 1999 PLAN:

- (U) (\$707) Support studies of increased efficiencies and technological advantages conferred by more effective utilization of computing resources and bandwidth.
- (U) (\$904) Identify programs and actions needed to provide joint capabilities for C4I architecture, e.g., enhance near real-time targeting, real-time joint planning/coordination, early intelligence preparation of battle space, and hardkill/softkill weapons.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N
PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998
Project Number: R0739
Project Title: Navy C4I Top Level
Requirements

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	1,034	1,164	1,897
(U) Appropriated Value:	-	1,164	-
(U) Adjustments from FY 1998 PRESBUDG:	-355	-214	-286
(U) FY 1999 President's Budget Request:	679	950	1,611

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment is due to SBIR assessment (-22), supplemental revised economic assumptions (-1) and below threshold reprogramming actions (-332). FY 1998 adjustment is due to Congressional Undistributed reductions (-32), economic assumptions (-3) and Navy/OSD offsets (-179). FY 1999 adjustment is due to Navy Working Capital Fund (NWCF) surcharge correction (+1), Commercial purchases inflation adjustment (-28), pay rate adjustment (+2), Navy/OSD offsets (-20), and reduction for higher priority programs (-241).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N

DATE: February 1998

PROGRAM ELEMENT TITLE: SEW Support

Project Number: X0706

Project Title: EMI Reduction and
Radio Frequency
Management

(U) COST (Dollars in thousands)

PROJECT NUMBER TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X0706 EMI Reduction and Radio Frequency Management	1,497	1,571	1,866	699	737	772	712	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Electromagnetic Interference (EMI) Reduction and Radio Frequency (RF) Management. This project develops tools to identify and reduce EMI sources from Navy systems and platforms. There are several tools under development to identify and reduce EMI through proper use of the electromagnetic spectrum. The Battle Force (BF) EMI Evaluation System (BEES) is a computer-aided force-level EMI evaluation tool that is used to develop BF Electromagnetic Environmental Effects (E3) policy for naval operations in the joint arena and fosters national and international inter-platform EM compatibility (EMC) during operations and exercises. The Automated Spectrum Planning, Engineering, Coordination and Tracking System (ASPECTS) is a computer-aided force-level communications planning and frequency management tool that is used to plan communication links, and analyze, allocate and assign communication and radar frequencies for fleet operations. The Waveform Recording and Playback System (WRaPS) is a unique E3 testing system to be used to measure degradation of a system performance due to EMI. The waveform of a potential interfering system is recorded; the recording can then be played back at a variety of test sites to evaluate the vulnerability of other systems to this waveform. Research includes advanced technology chamber (ATC), shielding effectiveness of composite materials, application of fiber optics to signal cables to eliminate EMI, and coherent measurements and development of E3 testing criteria/procedures.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N
PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998
Project Number: X0706
Project Title: EMI Reduction and
Radio Frequency
Management

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

2. (U) FY 1997 ACCOMPLISHMENTS:

- (U)(\$330) ASPECTS: Completed development of software for conversion of FMM to Windows NT in JMCIS. Continued to develop Frequency Assignment Algorithms for EMCAP. Developed capability to receive real-time recordings of the Electromagnetic Environment (EME) to be used in frequency management. Continued to develop E³ Information Network Software bridges.
- (U)(\$868) BEES: Continued to develop models and EMI displays for BEES Analyst Terminal to increase model fidelity. Developing Decision Trees and beginning to incorporate them into BEES to model operational decisions in response to EMI degradation. Developing force-level (DTE) model and completed initial capability command decision tree and terrain models.
- (U)(\$299) Criteria and Test Procedures: Developed Coherent Measurement Techniques for E3 testing.

3. (U) FY 1998 PLAN:

- (U)(\$640) ASPECTS: Expand frequency assignment algorithms for EMCAP. Begin development of ASPECTS and EMCAP software updates. Complete EME monitoring transition study and real-time frequency management software development. Complete development of E3 information network software bridges to multiple databases. Complete development of E3 Information Network Software bridges.
- (U)(\$614) BEES: Begin development of generic and specific electronic-communication system models. Continue incorporation of Decision Trees into BEES to model operational decisions in response to EMI degradation.
- (U)(\$317) Criteria and Test Procedures: Continue to investigate industrial standards for conversion to military standards, where appropriate. Incorporate Coherent Measurement Techniques for E3 test criteria.

4. (U) 1999 PLAN:

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N

PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998

Project Number: X0706

Project Title: EMI Reduction and
Radio Frequency
Management

- (U)(\$747) ASPECTS: Complete development of capability to receive real-time recordings of the EME to be used in frequency management. Continue ASPECTS and EMCAP software updates. Continue real-time frequency management software development.
- (U)(\$838) BEES: Continue development of generic and specific electronic-communication system models. Apply conditional logic to selected additional models to replicate operational decision making as it relates to E3.
- (U)(\$281) Criteria and Test Procedures: Continue to investigate industrial standards (foreign and domestic) for conversion to military standards. Continue to incorporate Coherent Measurement Techniques into E3 test criteria.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N
PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998
Project Number: X0706
Project Title: EMI Reduction and
Radio Frequency
Management

B. (U) PROGRAM CHANGE SUMMARY:

	FY 1997	FY 1998	FY 1999
(U) FY 1998 President's Budget:	1,791	1,619	2,273
(U) Adjustments from 1998 PRESBUDG:	-294	-48	-407
(U) FY 1999 President's Budget Submit:	1,497	1,571	1,866

(U) CHANGE SUMMARY EXPLANATION

(U) Funding:

FY 1997: \$-25K SBIR transfer. \$-37K NWCF pricing adjustments. \$-2K supplemental revised economic assumptions. \$-195K below threshold reprogramming actions. \$-35K Undistributed congressional reductions.

FY 1998: \$-4K revised economic assumptions. \$-44K Congressional undistributed general reductions.

FY 1999: \$-11K NWCF pricing adjustments. \$-33K commercial purchases inflation. \$+3 Pay rates. \$-366K reduction for higher priority programs.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

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BUDGET ACTIVITY: 6

PROGRAM ELEMENT: 0605866N

PROGRAM ELEMENT TITLE: SEW Support

DATE: February 1998

Project Number: X0706

Project Title: EMI Reduction and
Radio Frequency
Management

A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	FY 1997	FY 1998	FY 1999
a. ASPECTS/EMCAP Development	330	640	351
b. E3 Analysis Tool Development	868	614	300
c. Specifications & Standards	299	317	115
d. Joint Spectrum Center			1,100
Current Allocation	1,497	1,571	1,866

B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION: N/A

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
 PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
 PROGRAM TITLE: Tactical Satellite Reconnaissance Office

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
Z1034 Tactical Satellite Reconnaissance Office	10,685	9,681	11,991	12,249	12,590	12,797	13,090	CONT	CONT
R2007 Space Management Support	764	892	1,194	1,212	1,236	1,257	1,281	CONT	CONT
TOTAL	11,449	10,573	13,185	13,461	13,826	14,054	14,371	CONT	CONT

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

(U) Z1034: Established to exploit all National and Service sensor systems to improve tactical support to fleet operational commanders. Project also supports fleet exercises, which provide the venue for testing modifications to existing programs and being made aware of new requirements.

(U) R2007: The project provides resources to the Naval Space Command for the conduct of its support testing.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under Budget Activity 6 because it supports the operations and installations required for general research and development use.

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
PROGRAM TITLE: Tactical Satellite Reconnaissance Office
Z1034 Tactical Satellite Reconnaissance Office

10,685	9,681	11,991	12,249	12,590	12,797	13,090	CONT	CONT
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(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Established to exploit all National and Selected Service sensor systems to improve tactical support to fleet operational commanders. Project also supports fleet exercises, which provide the venue for testing modifications to existing programs and being made aware of new requirements. Additional detailed information is available at a higher level of classification.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$ 155) Joint Exercises/Training
- (U) (\$1,800) Support to Theater Ballistic Missile Defense
- (U) (\$2,600) Support to Littoral/Expeditionary Warfare
- (U) (\$2,650) Precision Strike/Mission Planning
- (U) (\$3,480) Improved Data Dissemination/Exploitation

2. (U) FY 1998 PLAN:

- (U) (\$ 25) Joint Exercises/Training
- (U) (\$1,125) Support to TBMD
- (U) (\$1,865) Support to Littoral/Expeditionary Warfare
- (U) (\$1,750) Precision Strike/Mission Planning
- (U) (\$4,916) Improved Data Dissemination/Exploitation

3. (U) FY 1999 PLAN:

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
PROGRAM TITLE: Tactical Satellite Reconnaissance Office

- (U) (\$ 100) Joint Exercises/Training
- (U) (\$2,000) Support to TBMD
- (U) (\$2,000) Support to Littoral/Expeditionary Warfare
- (U) (\$4,000) Precision Strike/Mission Planning
- (U) (\$3,891) Improved Data Dissemination/Exploitation

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget	10,698	11,022	12,284
(U) Adjustments from FY 1998 PRESBUDG:	-13	-1,341	-293
(U) FY 1999 President's Budget Request:	10,685	9,681	11,991

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustment due to FY 1997 supplemental revised economic assumptions (-13). FY 1998 adjustments are due to congressional R&D general reductions (-138), economic assumptions (-24), FFRDC reduction (-14), 1.5% general R&D reduction (-165), and FY98 Navy/OSD offsets (-1,000). FY 1999 adjustment is due to Navy Working Capital Fund (NWCF) pricing adjustment (+28), commercial purchase inflation adjustment (-211) and Navy/OSD offsets (-110).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
PROGRAM TITLE: Tactical Satellite Reconnaissance Office
(U) SCHEDULE PROFILE: Not applicable.

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
PROGRAM TITLE: Tactical Satellite Reconnaissance Office

(U) COST: (Dollars in thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R2007 Space Management Support	764	892	1,194	1,212	1,236	1,257	1,281	CONT	CONT

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provided resources to the Naval Space Command (NAVSPACECOM) for the conduct of its support testing. NAVSPACECOM is tasked with providing space support to fleet units worldwide, while also planning and coordinating future support system analysis, requirements, architectural and feasibility studies, technical demonstrations and prototype system development for future concepts to provide space support to the fleet warfighter.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$200) Demonstrated national system interfacing for tactical uses
- (U) (\$175) Completed prototype planning tool for multiple MILSATCOM system implementation
- (U) (\$309) Demonstrated parallel processing capability using distributed work stations
- (U) (\$ 80) Developed a Kalman filter which estimates the atmospheric-induced perturbations of each orbit

2. (U) FY 1998 PLAN:

- (U) (\$189) Develop advanced processing techniques using Multi-Spectral Imagery (MSI)/Hyper Spectral Imagery (HSI) data
- (U) (\$150) Investigate targeting of specific emitters using National systems

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
PROGRAM TITLE: Tactical Satellite Reconnaissance Office

- (U) (\$200) Demonstrate application of new processing against orbit predictions
- (U) (\$208) Apply parallel processing techniques to space processes
- (U) (\$ 45) MILSATCOM application research at Naval Post Graduate School
- (U) (\$100) Investigate Cooperative Engagement Capabilities integration of Theater Ballistic Missile (TBM) information

3. (U) FY 1999 PLAN:

- (U) (\$190) Prototype output interfaces for MSI/HSI data
- (U) (\$150) Develop low data rate SATCOM alternatives
- (U) (\$150) Demonstrate real-time application of National system data
- (U) (\$100) Integrate TBM warning data into Joint Tactical Ground Stations environment
- (U) (\$200) Demonstrate Kalman filtering against low orbit data
- (U) (\$226) Investigate numerically intensive database applications
- (U) (\$178) Prototype development of higher frequency fence processing

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget	781	919	1,657
(U) Appropriated Value:	--	919	--
(U) Adjustments from FY 1998 PRESBUDG:	-17	-27	-463

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FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 6 PROGRAM ELEMENT NUMBER: 0605867N PROJECT NUMBER: Z1034
PROGRAM ELEMENT TITLE: Space and Electronic Warfare Surveillance/Reconnaissance Support
PROGRAM TITLE: Tactical Satellite Reconnaissance Office
(U) FY 1999 President's Budget Request: 764 892 1,194

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding: FY 1997 adjustments are due to SBIR assessment (-15), supplemental revised economic assumptions (-1), and update to reflect actual execution (-1). FY 1998 adjustment is due to Congressional Undistributed Reductions (-25) and Economic Assumptions (-2). FY 1999 adjustment is due to Navy Working Capital Fund (NWCF) surcharge correction (+3), other NWCF adjustments (-4), reduction for higher priority programs (-441), and an inflation adjustment (-21).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) RELATED RDT&E: Not applicable.

(U) SCHEDULE PROFILE: Not applicable.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1998
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BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support
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COST <i>(In Thousands)</i>	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	8175	6631	7132	7706	7822	7747	7681	Continuing	Continuing
C0030 Marine Corps Studies and Analysis	4164	3400	3846	3952	4241	4386	4511	Continuing	Continuing
C0033 Marine Corps Operational Testing & Evaluation Activity	2784	1920	2009	2286	2311	2389	2395	Continuing	Continuing
C0073 Human Resources Management & Forecasting	1227	0	0	0	0	0	0	0	0
C2330 Chemical Biological Consequence Management	0	1311	1277	1468	1270	972	775	Continuing	Continuing
Quantity of RDT&E Articles									

(U) Mission Description and Budget Item Justification: This program element (PE) provides the analytical foundation for the Marine Corps Studies System (MCSS), including mandated Mission Area Analyses and Cost and Operational Effectiveness Analyses. The MCSS is the front end of the Marine Corps' acquisition system, supporting the Concepts Based Requirements System and Combat Development Process. In addition, the PE supports Marine Corps Operational Test and Evaluation (OT&E) Activities.

(U) Justification for Budget Activity: This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use. C0073 has been realigned to the Headquarters, Marine Corps Operations and Maintenance, Marine Corps Appropriation.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 1998		
BUDGET ACTIVITY 6 - Management Support				PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support				PROJECT C0030	
COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
C0030 Marine Corps Studies and Analysis	4164	3400	3846	3952	4241	4386	4511	Continuing	Continuing
Quantity of RDT&E Articles									
A. (U) <u>Mission Description and Budget Item Justification:</u>									
<p>(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides the analytical foundation for the Marine Corps Studies System (MCSS). The MCSS is the front end of the Marine Corps' acquisition system which supports the Concepts Based Requirements System (CBRS) and the Combat Development Process (CDP). The project funds a variety of studies and analyses to include: mandated Mission Area Analyses (MAA), Analysis of Alternatives, technology assessments; force structure analysis; weapons systems analysis; concept development and analysis; cost benefit analysis; training assessments; feasibility analysis; scenario development; and other more specific studies and analyses in support of the Program Objective Memorandum initiatives. This program provides quantitative and qualitative information to decisions makers on which to base decisions effecting improvements in operational concepts, doctrine, force structure, education, training, and procurement. The MCSS also provides analytical support for decision makers related to the resolution of current problems identified by the operating forces.</p>									
(U) FY 1997 Accomplishments:									
• (U) \$	3,756	Executed all high priority studies and the majority of the general study and analysis projects approved in the FY 1997 Marine Corps Studies Master Plan (MCSMP). Also executed one MAA, four Quadrennial Defense Review (QDR) support studies, one Analysis of Alternatives, and the initiated the initial MAA assessment under the Marine Corps' new MAA Process.							
• (U) \$	408	Funded the continuation of four FY 1996 study and analysis projects including one mission area analysis.							
(U)Total \$	4,164								
(U) FY 1998 Planned Program:									
• (U) \$	1,325	Execute the highest priority general study and analysis projects approved in the FY 1998 MCSMP. Annual accomplishments also will include MAA assessments and Analysis of Alternatives.							
• (U) \$	104	SBIR: Portion of program reserved for Small Business Innovation Research assessment in accordance with 15 U.S.C. 638 (f)(1).							
• (U) \$	1,971	Fund the continuation of FY 1997 study and analysis projects including two Analysis of Alternatives and one MAA assessment.							
(U)Total \$	3,400								
(U) FY 1999 Planned Program:									
• (U) \$	3,062	Execute the high priority studies and the majority the general study and analysis projects approved in the FY 1999 MCSMP. This plan will include four MAA assessments and three Analysis of Alternatives.							
Project C0030 Page 147 - 2 of 147 - 8 Pages Exhibit R-2									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1998							
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support								
	PROJECT C0030								
<ul style="list-style-type: none"> • (U) \$ 784 Fund the continuation of FY 1998 study and analysis projects including two Analysis of Alternatives. (U) Total \$ 3,846 									
B. (U) <u>Project Change Summary</u>									
	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>						
(U) Previous President's Budget	4080	3709	3898						
(U) Adjustments from the PRESBUD	84	-309	-52						
(U) Current Budget Submit	4164	3400	3846						
(U) Change Summary Explanation:									
(U) Funding: FY97 increase of \$88 thousand to support establishment of the, "Warfare Center of Excellence" (WCE)." and a decrease of (5) to reflect Revised Economic Assumption. FY98 and FY 99 changes are due to minor affordability adjustments.									
(U) Schedule: Not Applicable									
(U) Technical: Not Applicable									
C. (U) <u>Other Program Funding Summary</u>									
(APPN, BLI #, NOMEN)	<u>FY 1997</u>	<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>To</u>	<u>Total</u>
(U) Not applicable								<u>Complete</u>	<u>Cost</u>
(U) Related RDT&E: PE 0605154N (Center for Naval Analyses (CNA)), Project C0031 (Marine Corps Operations Analysis Group)									
D. (U) <u>Schedule Profile:</u> Not Applicable									
Project C0030			Page 147 - 3 of 147 - 8 Pages				Exhibit R-2		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1998
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BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support	PROJECT C0033
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COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
C0033 Marine Corps Operational Testing & Evaluation Activity	2784	1920	2009	2286	2311	2389	2395	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification: This program supports the Marine Corps Operational Test and Evaluation (OT&E) Activity (MCOTEA) representatives for Marine Corps OT&Es and OT&Es performed by Fleet Marine Force Commanders and Technical Support Activities. This program also provides for OT&E of systems prior to procurement by the Marine Corps to include test planning, operational testing, and Independent Evaluation Report (IER) preparation.

(U) FY 1997 Accomplishments:

- (U) \$ 1353 MCOTEA: Provide in-house support, salaries, and utilities.
- (U) \$ 35 AN/PSC-5 Manpack VHF Satellite Communication Terminal (AN/PSC-5) : Conduct IOT&E and publish IER.
- (U) \$ 140 Lightweight 155 Howitzer (LW 155): Conduct Operational Test Assessment (OTA) and development of Detailed Test Plan (DTP) for IOT&E.
- (U) \$ 101 Medium Tactical Vehicle Replacement (MTVR): Conduct OTA and publish DTP for IOT&E.
- (U) \$ 4 Heavy Machine Gun Tripod Lightweight (HMGT-LW): Bill of Material Costs
- (U) \$ 229 Improved Direct Support Central (IDASC): Conduct IOT&E and publish IER.
- (U) \$ 20 Designated Marksman Rifle (DMR): Bill of Material Costs.
- (U) \$ 338 Digital Technical Control (DTC): Conduct IOT&E and publish IER.
- (U) \$ 79 Remote Landing Site Tower (RLST): Develop and publish the DTP and test scenarios.
- (U) \$ 54 Tactical Electronic Reconnaissance Processing and Evaluation System Upgrade (TERPES-UPGRADE): Conduct IOT&E and publish IER.
- (U) \$ 283 Short Range Anti-Armor Weapon/Predator (SRAW): Develop and publish the DTP and test scenarios for IOT&E
- (U) \$ 60 Advanced Field Artillery Tactical Data System (AFATDS): Conduct IOT&E.
- (U) \$ 68 Mobile Electronic Warfare Support System (MEWSS): Develop and publish the DTP for IOT&E.
- (U) \$ 20 Armored Vehicles Drivers Thermal Viewer (AVDTV): Conduct IOT&E.

(U)Total \$ 2,784

(U) FY 1998 Planned Program:

- (U) \$ 1300 MCOTEA: Provide in-house support, salaries, and utilities.
- (U) \$ 21 SBIR: Portion of program reserved for Small Business Innovation Research assessment in accordance with 15 U.S.C. 638 (f)(1).
- (U) \$ 229 Advanced Field Artillery Tactical Data System (AFATDS): Conduct IOT&E and publish IER.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1998
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support	PROJECT C0033
<ul style="list-style-type: none"> • (U) \$ 80 Technical Control and Analysis Center-Product Improvement Program (TCAC-PIP): Develop and publish integrated DTP and test scenarios. • (U) \$ 40 Tactical Air Operations Center (TAOC): Conduct continued OT&E associated with multiple system integration. • (U) \$ 50 Data Automation Communications Terminal (DACT): Conduct IOT&E and publish IER. • (U) \$ 40 Family of Tactical Soft Shelters: Conduct IOT&E and publish IER. • (U) \$ 60 Commercial GMF Terminal (Tri-Band): Conduct IOT&E and publish IER. • (U) \$ 100 Mobile Electronic Warfare Support System (MWESS): Conduct MOT&E and publish IER. • (U) \$ 0 Medium Tactical Vehicle Replacement (MTVR): Develop Detailed Test Plan (DTP) for IOT&E. This effort was forwarded Finance with FY97 funding. <p>(U)Total \$ 1,920</p> <p>(U) FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • (U) \$ 1309 MCOTE A: Provide in-house support, salaries, and utilities. • (U) \$ 500 Advanced Field Artillery Tactical Data System (AFATDS): Conduct IOT&E and publish IER. • (U) \$ 150 Light NBC Reconnaissance System (LNBCRS): Conduct and publish DTP for IOT&E. • (U) \$ 50 Target Locator Designator Handoff System (TLDHS): Conduct IOT&E and publish IER. <p>(U)Total \$ 2,009</p>		
B. (U) Project Change Summary		
	<u>FY 1997</u>	<u>FY 1998</u>
	<u>FY 1999</u>	
(U) Previous President's Budget	2103	2114
(U) Adjustments to Previous President's Budget	681	-194
(U) Current Budget Submit	2784	1920
(U) Change Summary Explanation:		
<p>(U) Funding: The FY97 increase of 684 thousand represents the realignment of funding to cover increased execution cost and efforts associated with the operational testing of programs and \$3 thousand decrease due to Revised Economic Assumptions . FY98 funding decrease of \$194 thousand occurred as a result of forward financing in FY97 for MTVR and a minor affordability adjustment. The FY99 reduction of \$258 thousand is due to a refinement of in-house program cost estimates in the amount of \$132 thousand and a minor affordability adjustment in the amount of \$126 thousand.</p> <p>(U) Schedule: N/A</p>		
Project C0033	Page 147 - 5 of 147 - 8 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1998
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BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support	PROJECT C0033
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(U) Technical: N/A

C. (U) <u>Other Program Funding Summary</u> (APPN, BLI #, NOMEN)	<u>FY 1997</u>	<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>To</u>	<u>Total</u>
								<u>Complete</u>	<u>Cost</u>

(U) Not Applicable.

(U) **Related RDT&E Not Applicable.**

D. (U) Schedule Profile: Not Applicable.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1998
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BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605873M Marine Corps Program Wide Support	PROJECT C2330
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COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
C2330 Chemical Biological Consequence Management	0	1311	1277	1468	1270	972	775	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification: This project includes improvements in all areas of the Chemical Biological Incident Response Force inclusive to its commodity areas of reconnaissance, decontamination, emergency medical support, communications & general support and force protection.

(U) FY 1997 Accomplishments:

- (U) \$ 0 N/A
- (U)Total \$ 0

(U) FY 1998 Planned Program:

- (U) \$ 1133 Industry development and government testing for prototype protective equipment, detectors, etc. Reliability, Adaptability and Maintainability and Durability (RAM-D) testing.
- (U) \$ 178 SBIR: Portion of program reserved for Small Business Innovation Research assessment in accordance with 15 U.S.C. 638 (f)(1).
- (U)Total \$ 1,311

(U) FY 1999 Planned Program:

- (U) \$ 1277 Downselect to one contractor via formal source selection procedures. Procure quantities for any required follow-on operational testing.
- (U)Total \$ 1,277

B. (U) Project Change Summary

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) Previous President's Budget	0	1000	1300
(U) Adjustments to Previous President's Budget	0	311	-23
(U) Current Budget Submit	0	1311	1277

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 1998	
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
6 - Management Support				0605873M Marine Corps Program Wide Support				C2330	
(U) Change Summary Explanation: (U) Funding: FY98 and FY99 changes are due to minor affordability adjustments.									
(U) Schedule:N/A.									
(U) Technical: N/A									
C. (U) <u>Other Program Funding Summary</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	To <u>Compl</u>	Total <u>Cost</u>
(APPN, BLI #, NOMEN)									
(U) PMC Line (BLI # 652200) Field Medical Equip	10,000	9,749	0	1,000	1,600	1,400	1,000	Cont.	Cont.
(U) O&MMC Initial Issue/O&MME/Acq Supt	0	1,237	1,271	1,307	1,344	1,381	1,420	Cont.	Cont.
(U) Related RDT&E:									
PE 0605154N (Center for Naval Analyses (CNA))									
D. (U) <u>Schedule Profile:</u> N/A									