

AD-A218 513

# RDT&E PROGRAMS (R-1)



## DEPARTMENT OF DEFENSE BUDGET FOR FISCAL YEAR 1991

CONTRIBUTION STATEMENT A  
Approved for: public release

January 29, 1990

**Preface**

The R.D.T. & E. Programs (R-1) exhibit is derived from and consistent with the DoD Five Year Defense Program R.D.T. & E. Annex data base.

The R-1 is provided annually to the DoD oversight committees of the Congress coincident with the transmittal by the President of the Budget of the United States Government. It is accompanied by an automated data base submission to the House Committee on Administration for input to the House Information System. An unclassified version of the document is provided to OASD(PA) for use by non-DoD activities.

Office of the Comptroller of the Department of Defense

STATEMENT "A" per Dave Hoen  
DoD Comptroller  
TELECON 2/23/90

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 FY 1991 R D T & E Program

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Date: 29 Jan 1990

Summary

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
<b>Summary By Appropriation</b>			
Research Development Test & Eval Army	5,154,184	5,418,729	6,025,900
Research Development Test & Eval Navy	9,281,543	9,465,840	9,102,400
Research Development Test & Eval AF	14,668,184	13,496,884	13,276,300
Research Development Test & Eval Def Ag	8,181,937	8,145,493	9,249,300
Director of Test & Eval Defense	149,108	178,221	348,100
Director of Operational Test & Evaluation	70,654	12,725	90,800
<b>Total Research, Development, Test &amp; Evaluation</b>	<b>37,505,610</b>	<b>36,717,892</b>	<b>38,092,800</b>
<b>Summary Recap of Research Categories</b>			
Research	950,675	923,481	977,814
Exploratory Development	2,540,776	2,403,096	2,457,536
Advanced Development	10,375,585	10,340,277	11,106,783
Engineering Development	11,413,253	11,301,861	10,941,677
Management and Support	2,808,449	2,530,056	2,849,099
Research and Development (FYDP Program 6)	28,068,738	27,498,771	28,332,909
Operational Systems Development	9,416,872	9,219,121	9,759,891
<b>Total Research, Development, Test &amp; Evaluation</b>	<b>37,505,610</b>	<b>36,717,892</b>	<b>38,092,800</b>

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## Summary

Date: 29 Jan 1990

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
Summary Recap of Budget Activities			
Technology Base	3,506,029	3,326,577	3,435,350
Advanced Technology Development	5,836,589	5,858,118	6,316,564
Strategic Programs	6,427,543	5,364,261	5,608,906
Tactical Programs	12,989,112	13,446,108	13,480,526
Intelligence and Communications	4,512,406	4,779,041	4,957,401
Defensewide Mission Support	4,233,931	3,943,787	4,294,053
Total Research, Development, Test & Evaluation	37,505,610	36,717,892	38,092,800
Summary Recap of FYDP Programs			
Strategic Forces	656,588	598,246	644,014
General Purpose Forces	1,930,446	1,974,877	2,151,835
Intelligence and Communications	6,192,375	6,221,897	6,532,833
Airlift/Sealift	14,442	14,714	13,063
Guard and Reserve	78,998	19,945	
Research and Development (FYDP Program 6)	28,088,738	27,498,771	28,332,909
Central Supply and Maintenance	203,327	218,167	200,064
Administration and Assoc Activities		4,148	4,478
Support of Other Nations	3,548	4,702	6,452
Special Operations Forces	337,148	162,425	207,152
Total Research, Development, Test & Evaluation	37,505,610	36,717,892	38,092,800

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Summary  
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 Thousands of Dollars

	FY 1989	FY 1990	FY 1991
<b>Summary Recap of Research Categories</b>			
Research	170,897	181,589	188,919
Exploratory Development	571,133	547,798	579,965
Advanced Development	1,154,343	1,178,034	1,228,294
Engineering Development	1,439,331	1,677,023	2,033,812
Management and Support	1,153,213	1,185,906	1,300,472
Research and Development (FYDP Program 6)	4,488,917	4,770,350	5,331,462
Operational Systems Development	665,267	648,379	694,438
<b>Total Research Development Test &amp; Eval Army</b>	<b>5,154,184</b>	<b>5,418,729</b>	<b>6,025,900</b>
<b>Summary Recap of Budget Activities</b>			
Technology Base	742,030	729,387	768,884
Advanced Technology Development	429,511	514,483	485,043
Strategic Programs	70,209	186,330	296,050
Tactical Programs	2,690,870	2,683,289	3,059,672
Intelligence and Communications	54,020	100,640	95,399
Defensewide Mission Support	1,167,544	1,204,600	1,320,852
<b>Total Research Development Test &amp; Eval Army</b>	<b>5,154,184</b>	<b>5,418,729</b>	<b>6,025,900</b>
<b>Summary Recap of FYDP Programs</b>			
Strategic Forces	47,141	72,922	65,709
General Purpose Forces	404,021	380,832	501,205
Intelligence and Communications	62,072	105,054	100,816
Research and Development (FYDP Program 6)	4,488,917	4,770,350	5,331,462
Central Supply and Maintenance	19,800	24,633	26,708
Special Operations Forces	132,233	64,938	
<b>Total Research Development Test &amp; Eval Army</b>	<b>5,154,184</b>	<b>5,418,729</b>	<b>6,025,900</b>

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Line Element No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
1	0601101A	In-House Laboratory Independent Research	1	8,946	9,429	U
2	0601102A	Defense Research Sciences	1	170,897	179,490	U
3	0602105A	Materials Technology	1	10,570	13,276	U
4	0602120A	Electronic Survivability and Fuzing Technology	1	39,127	24,897	U
5	0602122A	Survivability Enhancement	1	5,560	6,285	U
6	0602123A	TRACTOR FIELD	1			U
7	0602211A	Aviation Technology	1	42,582	41,897	U
8	0602270A	Ew Technology	1			U
9	0602303A	Missile Technology	1	23,637	30,129	U
10	0602307A	Laser Weapons Technology	1	6,243	544	559
11	0602601A	Combat Vehicle and Automotive Technology	1	21,996	32,097	36,084
12	0602618A	Ballistics Technology	1	30,595	26,609	27,700
13	0602622A	Chemical, Smoke and Equipment Defeating Technology	1	39,419	52,779	50,841
14	0602623A	Joint Service Small Arms Program	1	13,072	5,051	5,381
15	0602624A	Weapons and Munitions Technology	1	34,691	36,023	36,866
16	0602705A	Electronics and Electronic Devices	1	21,489	17,247	17,608
17	0602709A	Night Vision Technology	1	21,961	18,820	19,285
18	0602716A	Human Factors Engineering Technology	1	18,080	8,195	8,019
19	0602720A	Environmental Quality Technology	1	9,811	11,715	9,815
20	0602727A	Non-System Training Device Technology	1	3,634	3,483	3,607

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Line No	Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
21	0602782A	Command, Control, Communications Technology	1	16,412	15,582	20,458 U
22	0602783A	Computer and Software Technology	1	6,194	3,466	5,073 U
23	0602784A	Military Engineering Technology	1	42,979	43,803	46,053 U
24	0602785A	Manpower/Personnel/Training Technology	1	17,377	16,804	17,331 U
25	0602786A	Logistics Technology	1	41,343	35,516	35,811 U
26	0602787A	Medical Technology	1	104,361	94,409	96,902 U
27	0602788A	TRACTOR FLOP	1	1,811	1,811	1,863 U
Technology Base				742,030	729,387	768,884
28	0603001A	Logistics Advanced Technology	2	10,366	10,319	9,063 U
29	0603002A	Medical Advanced Technology	2	31,717	34,161	34,809 U
30	0603003A	Aviation Advanced Technology	2	31,944	31,514	34,713 U
31	0603004A	Weapons and Munitions Advanced Technology	2	77,734	76,631	33,471 U
32	0603005A	Combat Vehicle and Automotive Advanced Technology	2	61,815	119,267	176,761 U
33	0603006A	Command, Control, Communications Advanced Technology	2	6,871	7,878	9,334 U
34	0603007A	Human Factors/Personnel/Training Advanced Technology	2	28,981	18,618	19,008 U
35	0603009A	Classified Program	2		6,161	6,382 U
36	0603012A	TRACTOR HOLE	2		11,423	4,656 U
37	0603013A	TRACTOR DIRT	2		1,811	1,210 U
38	0603102A	Materials and Structures Advanced Technology	2	7,430	4,619	4,973 U

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Line Element No	Program Element No	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 C
39	0603105A	Acquired Immune Deficiency Syndrome (AIDS) Research	2	26,659	33,500	22,558 U
40	0603270A	EW Technology	2	36,751	28,583	U
41	0603271A	TRACTOR NAIL	2			U
42	0603313A	Missile and Rocket Advanced Technology	2	13,359	10,520	8,821 U
43	0603314A	Directed Energy	2	5,673	45,457	41,014 U
44	0603322A	TRACTOR CAGE	2			16,241 U
45	0603324A	Army Development and Employment Agency	2	4,922	3,889	U
46	0603606A	Landmine Warfare and Barrier Advanced Technology	2	8,929	10,121	11,773 U
47	0603607A	Joint Service Small Arms Program	2	9,404	6,726	5,406 U
48	0603710A	Night Vision Advanced Technology	2	18,540	21,461	20,296 U
49	0603733A	Environmental Quality Control Equipment	2	7,285		U
50	0603734A	Military Engineering Advanced Technology	2	2,300	3,565	2,380 U
51	0603742A	Advanced Electronic Devices Development	2	6,197	7,734	5,640 U
52	0603758A	Army Battlefield Technology Integration	2	11,231		U
53	0603759A	Chemical Biological Defense and Smoke Advanced Technology	2	2,745	3,930	4,071 U
54	0603772A	Advanced Tactical Computer Science and Technology	2	4,500	4,406	4,834 U
55	1140011A	Advanced Special Operations Research, Development and Acquisition	2	14,158	12,189	U
		Advanced Technology Development		429,511	514,483	485,043
56	0603325A	Chemical Weapons Treaty Monitoring	3		14,780	U

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Line Element No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars			S e c
				FY 1989	FY 1990	FY 1991	
57	0603392A	Anti-Satellite Weapon (ASAT)	3	73,850	207,782	U	
58	0102814A	Special Programs	3			U	
59	0303152A	World-Wide Military Command and Control Systems, Information System	3			U	
Strategic Programs							
60	0603302A	Joint Tactical Missile Defense Program	4	186,330	296,050		
61	0603303A	Surface-to-Surface Missile Rocket System	4	45,389	62,249	U	
62	0603604A	Nuclear Munitions - Adv Dev	4	35,320	47,175	U	
63	0603612A	Advanced Anti-Tank Weapon Systems	4	7,273	3,586	U	
64	0603619A	Landmine Warfare and Barrier - Adv Dev	4	37,422	22,009	U	
65	0603627A	Smoke, Obscurant and Equipment Defeating Systems - Adv Dev	4	13,616	2,988	U	
66	0603639A	Armament Enhancement Initiative	4	6,549	12,351	U	
67	0603642A	Medium Surface-to-Air Missile	4			U	
68	0603706A	Identification-Friend-or-Foe - Adv Dev	4	16,641	6,898	U	
69	0603713A	Army Data Distribution System	4	19,593	1,013	U	
70	0603730A	Tactical Surveillance System - Adv Dev	4	29,385	21,701	U	
71	0603745A	Tactical Electronic Support Systems - Adv Dev	4	7,433	3,609	U	
72	0603747A	Soldier Support and Survivability	4	5,226	7,532	U	
73	0603754A	Classified Program - Adv Dev	4			U	
74	0603757A	Forward Area Air Defense (FAAD) System	4	94,530	54,800	U	

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Line No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 e
75	0603766A	Tactical Electronic Surveillance System - Adv Dev	4	11,524	10,899	U
76	0603774A	Night Vision Systems Advanced Development	4	3,827	3,040	3,272 U
77	0603776A	Longbow	4	85,610	22,810	U
78	0603777A	Follow-On LANCE - Adv Dev	4	7,351		U
79	0603801A	Aviation - Adv Dev	4	4,880	15,727	5,134 U
80	0603802A	Weapons and Munitions - Adv Dev	4	21,911	17,575	18,566 U
81	0603803A	Chemical Systems - Adv Dev	4		7,101	4,522 U
82	0603804A	Logistics and Engineer Equipment - Adv Dev	4	15,871	16,457	13,449 U
83	0603805A	Combat Service Support Computer System Evaluation and Analysis	4	4,796	2,229	11,193 U
84	0603806A	Chemical/Biological Defense Equipment - Adv Dev	4	9,805	19,697	24,511 U
85	0603807A	Medical Systems - Adv Dev	4	30,636	26,879	28,755 U
86	0603808A	Classified Program	4		28,649	17,209 U
87	0603810A	Advanced Missile System-Heavy	4	10,682	12,802	1,013 U
88	0604202A	Aircraft Weapons	4	7,077	9,446	7,607 U
89	0604216A	Aircraft Propulsion System	4	50,823	50,916	53,702 U
90	0604220A	Army Helicopter Improvement Program	4			25,817 U
91	0604223A	Light Armed Scout Helicopter	4	126,408	223,272	411,357 U
92	0604270A	EW Development	4	64,980	54,462	U
93	0604310A	Heliborne Missile - HELLFIRE	4	2,963		U
94	0604313A	GRASS BLADE	4	4,638		U

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Line Element No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars			S e c
				FY 1989	FY 1990	FY 1991 c	
95	0604321A	Joint Tactical Fusion Program	4	125,431	88,649		U
96	0604324A	Army Tactical Missile System (Army TACMS)	4	73,574	41,026		U
97	0604603A	Nuclear Munitions - Eng Dev	4	7,853	5,454		U
98	0604604A	Medium Tactical Vehicles	4	24,816	18,093		U
99	0604609A	Smoke, Obscurant and Equipment Systems - Eng Dev	4	5,695	13,024		U
100	0604611A	Advanced Anti-Tank Weapon System - Eng Dev	4	105,170	137,861		U
101	0604619A	Landmine Warfare	4		21,448		U
102	0604622A	Heavy Tactical Vehicles	4	28,019	5,331		U
103	0604630A	MIA Development Program	4				U
104	0604709A	Identification-Friend-or-Foe - Eng Dev	4	21,091	22,772		U
105	0604710A	Night Vision Systems - Eng Dev	4	16,381	19,060		U
106	0604713A	Combat Feeding, Clothing, and Equipment	4	2,431	22,590		U
107	0604715A	Non-System Training Devices - Eng Dev	4	22,224	15,843		U
108	0604722A	Education and Training Systems Development	4	6,788			U
109	0604723A	Special Purpose Detectors	4	477	478		U
110	0604740A	Tactical Surveillance System - Eng Dev	4	9,612	4,878		U
111	0604741A	Air Defense Command, Control and Intelligence - Eng Dev	4	87,503	49,103		U
112	0604746A	Automatic Test Equipment Development	4	7,801	9,119		U
113	0604754A	Classified Program - Eng Dev	4				U
114	0604766A	Tactical Electronic Surveillance System - Eng Dev	4	17,097	17,985		U

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Line No	Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
115	0604770A	Joint Surveillance/Target Attack Radar System	4	22,905	39,642	45,833 U
116	0604779A	Joint Interoperability of Tactical Command & Control Systems (JINTACCS)	4	9,383	4,271	U
117	0604801A	Aviation - Eng Dev	4	8,515	15,655	19,376 U
118	0604802A	Weapons and Munitions - Eng Dev	4	11,801	22,518	11,106 U
119	0604803A	Chemical Systems - Eng Dev	4	33,314	30,966	27,806 U
20	0604804A	Logistics and Engineer Equipment - Eng Dev	4	12,686	31,050	27,486 U
121	0604805A	Command, Control, Communications Systems - Eng Dev	4	12,602	11,686	1,404 U
122	0604806A	Chemical/Biological Defense Equipment - Eng Dev	4	11,814	38,960	57,291 U
123	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev	4	17,265	17,302	19,558 U
124	0604808A	Landmine Warfare/Barrier - Eng Dev	4	15,959	9,653	17,372 U
125	0604810A	Fiber Optic Guided Missile - Eng Dev	4	96,427	122,059	99,062 U
126	0604812A	Classified Program	4			13,423 U
127	0604813A	TRACTOR PULL	4		3,860	35,149 U
128	0604814A	Sense and Destroy Armament Missile - Eng Dev	4	143,917	142,762	105,507 U
129	0604815A	TRACTOR TRAILER	4		4,852	U
130	0604816A	LONGBOW - Eng Dev	4		73,404	159,057 U
131	0604817A	TRACTOR CRASH/BALL	4	19,649	9,462	2,495 U
132	0604818A	Army Tactical Command & Control Systems (ATCCS) Eng Dev	4	7,981	24,838	22,829 U
133	0604819A	LOSAT	4			72,872 U
134	0604820A	Radar Development	4		16,932	U

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Thousands of Dollars						
135	0604821A	Follow-on Lance Engineering Development	4		32,320	112,228 U
136	0605710A	Joint CB Point of Contact, Test and Assessment	4	5,469	5,939	6,328 U
137	0203726A	Adv Field Artillery Tactical Data System	4	17,022	32,000	45,764 U
138	0203735A	Combat Vehicle Improvement Programs	4	136,123	62,225	97,751 U
139	0203739A	Air Defense C3I Modifications	4	5,279		U
140	0203740A	Maneuver Control System	4	11,905	7,295	25,541 U
141	0203743A	155mm Self-Propelled Howitzer Improvements	4	28,440	10,493	8,809 U
142	0203744A	Aircraft Modifications/Product Improvement Programs	4	73,595	66,464	60,457 U
143	0203745A	Weapons and Munitions Equipment Upgrade Program	4	20,931		U
144	0203752A	Aircraft Engine Component Improvement Program	4	7,883	5,738	7,055 U
145	0203801A	Missile/Air Defense Product Improvement Program	4	33,360	48,611	40,817 U
146	0203802A	Other Missile Product Improvement Programs	4	39,522	79,393	73,320 U
147	0203806A	TRACTOR RIG	4		9,840	22,981 U
148	0203808A	TRACTOR CARD	4	11,000	11,818	7,378 U
149	0203809A	Dragon III	4	5,241		U
150	0207316A	TACIT RAINBOW	4		46,955	105,258 U
151	0208010A	Joint Tactical Communications Program (TRI-TAC)	4	13,720		6,074 U
152	0303145A	EUCOM C3 Systems	4	1		U
153	1110011A	Force Enhancements-Active	4	118,075	52,749	U
Tactical Programs				2,690,870	2,683,289	3,059,672

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154	0604716A	Terrain Information - Eng Dev	5	6,412	12,731	10,757	U
155	0604778A	NAVSTAR Global Positioning System (User Equipment)	5	8,605	7,633	6,385	U
156	0301359A	Special Army Program	5				U
157	0303142A	SATCOM Ground Environment	5	24,686	54,634	47,744	U
158	0303401A	Communications Security (COMSEC)	5				U
Intelligence and Communications				54,020	100,640	95,399	
159	0605301A	Army Kwajalein Atoll	6	157,485	162,856	180,033	U
160	0605502A	Small Business Innovative Research	6	45,785			U
161	0605601A	Army Test Ranges and Facilities	6	190,126	214,903	229,891	U
162	0605602A	Army Technical Test Instrumentation and Targets	6	57,940	60,542	88,484	U
163	0605603A	Army User Test Instrumentation and Threat Simulators	6	39,558	46,294	41,224	U
164	0605604A	Technology and Vulnerability Assessment	6	25,720	33,349	35,976	U
165	0605702A	Meteorological Support to RDT&E Activities	6	18,372	23,138	24,395	U
166	0605706A	Materiel Systems Analysis	6	24,433	23,029	23,435	U
167	0605709A	Exploitation of Foreign Items	6	4,263	16,898	22,674	U
168	0605712A	Support of Operational Testing	6	50,468	63,213	63,278	U
169	0605801A	Programwide Activities	6	83,560	84,175	93,249	U
170	0605802A	International Cooperative Research and Development	6	1,065	1,724	1,905	U
171	0605803A	Technical Information Activities	6	5,756	5,858	7,658	U

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Program Line Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
172	0605805A Munitions Standardization, Effectiveness and Safety	6	16,753	12,509	12,786 U
173	0605810A RDT&E Support for Nondevelopmental Items	6	18,523	7,420	7,576 U
174	0605872A Productivity Investments	6	48,863	18,895	19,159 U
175	0605894A Real Property Maintenance Activities - RDT&E	6	164,935	199,206	222,764 U
176	0605896A Base Operations - RDT&E	6	183,079	191,500	204,360 U
177	0605898A Management Headquarters (Research and Development)	6	11,060	14,458	15,297 U
178	0708011A Industrial Preparedness	6	19,800	24,633	26,708 U
Defensewide Mission Support			1,167,544	1,204,600	1,320,852
Total Research Development Test & Eval Army			5,154,184	5,418,729	6,025,900

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Date: 29 Jan 1990

Summary

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
Summary Recap of Research Categories			
Research	352,393	365,930	401,158
Exploratory Development	429,696	438,976	466,335
Advanced Development	2,060,095	2,008,721	2,276,623
Engineering Development	4,435,816	4,519,510	3,751,915
Management and Support	649,097	563,540	614,040
Research and Development (FYDP Program 6)	7,927,097	7,896,677	7,510,071
Operational Systems Development	1,354,446	1,569,163	1,592,329
Total Research Development Test & Eval Navy	9,281,543	9,465,840	9,102,400
Summary Recap of Budget Activities			
Technology Base	782,089	804,906	867,493
Advanced Technology Development	190,022	213,884	199,605
Strategic Programs	778,381	390,641	285,720
Tactical Programs	6,037,372	6,523,358	6,146,247
Intelligence and Communications	723,307	860,106	873,640
Defensewide Mission Support	770,372	672,945	729,695
Total Research Development Test & Eval Navy	9,281,543	9,465,840	9,102,400
Summary Recap of FYDP Programs			
Strategic Forces	157,842	141,156	162,816
General Purpose Forces	526,866	610,153	644,878
Intelligence and Communications	597,508	732,836	742,808
Research and Development (FYDP Program 6)	7,927,097	7,896,677	7,510,071
Central Supply and Maintenance	43,310	48,456	41,827
Special Operations Forces	28,920	36,562	
Total Research Development Test & Eval Navy	9,281,543	9,465,840	9,102,400

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Line No	Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 e
Thousands of Dollars						
1	0601152N	In-House Independent Laboratory Research	1	23,429	24,346	26,801 U
2	0601153N	Defense Research Sciences	1	328,964	341,584	374,357 U
3	0602111N	Anti-Air Warfare/Anti-Surface Warfare Technology	1	57,871	61,751	63,105 U
4	0602121N	Surface Ship Technology	1	14,916	13,753	15,982 U
5	0602122N	Aircraft Technology	1	19,155	21,282	24,403 U
6	0602131M	Marine Corps Landing Force Technology	1	17,101	16,374	18,132 U
7	0602232N	Command, Control, and Communications Technology	1	15,296	15,508	18,393 U
8	0602233N	Mission Support Technology	1	28,068	31,702	34,493 U
9	0602234N	Systems Support Technology	1	63,380	62,843	69,152 U
10	0602270N	EW Technology	1			12,872 U
11	0602314N	ASW Technology	1	95,938	129,332	114,677 U
12	0602315N	Mine and Special Warfare Technology	1	15,125	15,921	17,926 U
13	0602323N	Submarine Technology	1	13,587	15,025	16,701 U
14	0602324N	Nuclear Propulsion	1	44,423	14,036	14,575 U
15	0602435N	Ocean and Atmospheric Support Technology	1	27,796	29,449	32,099 U
16	0602936N	Independent Exploratory Development	1	17,040	12,000	13,825 U
		Technology Base		782,089	804,906	867,493
17	0603210N	Aircraft Propulsion	2	6,028	7,162	10,134 U
18	0603217N	Advanced Aircraft Subsystems	2	12,277	5,744	5,966 U

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Line No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars			U
				FY 1989	FY 1990	FY 1991 c	
19	060J270N	EW Technology	2	14,079	12,486		U
20	060J303N	Electromagnetic Radiation Source Elimination Technology	2	5,713	973		5,734 U
21	0603508N	Ship Propulsion System	2	10,520			U
22	060J573N	Electric Drive	2	16,877	31,204		43,799 U
23	060J640M	Marine Corps Advanced Technology Demonstration	2				15,254 U
24	0603701N	Human Factors Engineering	2	2,421	2,472		2,883 U
25	060J706N	Medical Development	2	20,516	17,066		16,966 U
26	0603707N	Manpower and Personnel Systems	2	3,167	3,029		3,200 U
27	0603712N	Generic Logistics R&D Technology Demonstrations	2	26,361	17,201		14,040 U
28	0603720N	Education and Training	2	5,279	5,222		5,983 U
29	0603732M	Marine Corps Advanced Manpower/Training Systems	2	3,085	3,969		3,110 U
30	0603733N	Simulation and Training Devices	2	6,298	973		5,042 U
31	0603739N	Navy Logistic Productivity	2	1,445			U
32	0603747N	Advanced Anti-Submarine Warfare Technology	2	146	37,276		16,351 U
33	0603792N	Advanced Technology Transition	2	55,810	67,550		51,143 U
34	1140011N	Advanced Special Operations Research, Development and Acquisition	2		1,557		U
		Advanced Technology Development		190,022	213,884		199,605
35	0603451N	Tactical Space Operations	3	5,703	3,742		3,591 U
36	0603588N	SSBN Survivability	3	8,710	11,598		15,649 U

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Line No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C	U
37	0603735N	WWMCCS Architecture Support	3	5,005	6,881		U
38	0603741N	Satellite Laser Communications	3	24,452			U
39	0604363N	TRIDENT II	3	567,240	213,937		U
40	0605856N	Strategic Technical Support	3	3,816	5,996		U
41	0101221N	Fleet Ballistic Missile System	3	30,974	35,957		U
42	0101224N	SSBN Security Technology Program	3	42,370	40,793		U
43	0101226N	Sub Acoustic Warfare Development	3				U
44	0101228N	Trident	3	29,484	32,535		U
45	0101401N	Extremely Low Frequency (ELF) Communications	3	2,975	100		U
46	0101402N	Navy Strategic Communications	3	51,351	31,016		U
47	0102427N	Naval Space Surveillance	3	688	755		U
48	0303131N	Minimum Essential Emergency Communications Network (MEECN)	3	1,034	1,305		U
49	0303152N	World-Wide Military Command and Control Systems, Information System	3	4,579	6,026		U
		Strategic Programs		778,381	390,641		
50	0603109N	Integrated Aircraft Avionics	4	2,222	3,224		U
51	0603207N	Air/Ocean Tactical Applications	4	7,617	7,870		U
52	0603208N	T-45 Training System	4	91,234	22,425		U
53	0603216N	Air Crew Systems Technology	4	7,558	12,179		U
54	0603220N	Advanced Tactical Support (ATS)	4				U
					285,720		

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Program Line Element No	Item Nomenclature	Act	Thousands of Dollars			S
			FY 1989	FY 1990	FY 1991 C	
55	0603222N Skipper Enhancements	4	15,651	11,433		U
56	0603228N CV ASW Module	4	3,442	3,411		3,625 U
57	0603231N Navy Advanced Tactical Fighter	4	63,722	60,586		65,685 U
58	0603254N Air ASW	4	12,345	10,689		11,319 U
59	0603260N Airborne Mine Countermeasures	4	11,902	12,677		16,930 U
60	0603261N Tactical Airborne Reconnaissance	4	12,008	21,525		30,950 U
61	0603262N Aircraft Survivability and Vulnerability	4	10,665	8,845		9,385 U
62	0603306N Advanced A/L Air-to-Surface Missile System	4	25,953	3,000		U
63	0603318N Advanced Surface-to-Air Missile	4	101,940	89,516		43,755 U
64	0603319N NATO AAW Systems	4	6,883	16,494		24,744 U
65	0603320N Low Cost Anti-Radiation Seeker	4	7,522	11,653		10,357 U
66	0603321N Advanced Air-to-Air Missile (AAAM)	4	29,622	70,409		84,225 U
67	0603382N Battle Group AAW Coordination	4	7,321	9,236		3,949 U
68	0603502N Surface Mine Countermeasures	4	15,315	14,678		21,003 U
69	0603504N Advanced Submarine ASW Development	4	11,697	15,784		29,140 U
70	0603506N Surface Ship Torpedo Defense	4	31,154	49,610		53,919 U
71	0603512N Shipboard Aviation Systems	4	9,529	7,626		8,118 U
72	0603513N Shipboard System Component Development	4	10,297			U
73	0603514N Ship Combat Survivability	4	28,772	31,509		32,087 U
74	0603522N Submarine Arctic Warfare Support Equipment Program	4	3,342	2,629		2,892 U

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				FY 1989	FY 1990	FY 1991 C
75	0603525N	PILOT FISH	4	59,583	58,773	55,853 U
76	0603528N	Non-Acoustic Anti-Submarine Warfare (ASW)	4	15,379		22,884 U
77	0603529N	Advanced ASW Target	4	14,941	30,421	5,020 U
78	0603536N	RETRACT JUNIPER	4	41,339	51,991	41,384 U
79	0603542N	Radiological Control	4	3,168	3,794	4,062 U
80	0603551N	LINK SAKI	4			14,251 U
81	0603553N	Surface ASW	4	66,315	39,839	45,801 U
82	0603561N	Advanced Submarine System Development	4		28,323	52,137 U
83	0603562N	Submarine Tactical Warfare Systems	4	6,037	7,282	7,417 U
84	0603564N	Ship Development	4	7,942	20,087	18,864 U
85	0603569N	Attack Submarine Development	4	14,658		U
86	0603570N	Advanced Nuclear Power Systems	4	84,255	59,561	110,093 U
87	0603576N	CHALK EAGLE	4	100,663	110,852	112,322 U
88	0603582N	Combat System Integration	4	8,589	9,748	10,173 U
89	0603591N	Joint Advanced Systems	4	244,162	191,160	201,228 U
90	0603601N	Mine Development	4	11,419	3,895	5,042 U
91	0603609N	Conventional Munitions	4	24,747	44,231	53,321 U
92	0603610N	Advanced Warhead Development	4		4,593	5,163 U
93	0603611M	Marine Corps Assault Vehicles	4	7,333	15,684	42,591 U
94	0603612M	Marine Corps Mine/Countermeasures Systems - Adv Dev	4		9,334	5,788 U

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Line Element No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 c
95	0603634N	Tactical Nuclear Development	4	10,068	14,623	14,485 U
96	0603635M	Marine Corps Ground Combat/Support System	4	10,595	6,386	11,153 U
97	0603654N	Joint Service Explosive Ordnance Development	4	11,114	7,613	9,145 U
98	0603691N	MK 48 ADCAP - Adv Dev	4	26,225	30,648	60,264 U
99	0603702N	Ocean Engineering Systems Development	4	1,829	2,126	2,278 U
100	0603704N	ASW Oceanography	4	9,725	9,146	9,794 U
101	0603708N	ASW Signal Processing	4	17,226	19,057	28,642 U
102	0603709N	Advanced Marine Biological System	4	5,995	5,562	5,737 U
103	0603711N	Fleet Tactical Development and Evaluation Program	4	6,017	6,161	6,621 U
104	0603713N	Ocean Engineering Technology Developments	4	13,757	14,334	15,438 U
105	0603717N	Command and Control Systems	4	31,917	22,787	26,865 U
106	0603719N	Container Off-Loading and Transfer System (COTS)	4	900		U
107	0603724N	Navy Energy Program	4	8,401	6,507	7,541 U
108	0603725N	Facilities Improvement	4	3,610	1,000	1,022 U
109	0603729M	Marine Corps Combat Services Support	4	11,449	1,983	1,332 U
110	0603734N	CHALK CORAL	4	4,904	9,196	31,129 U
111	0603737N	LINK HAZEL	4	7,395	1,067	1,127 U
112	0603740N	LINK LAUREL	4	59,330	113,612	105,713 U
113	0603746N	RETRACT MAPLE	4	120,753	137,761	165,505 U
114	0603748N	LINK PLUMERIA	4	10,729	6,170	12,924 U

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Line Element No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c	e
115	0603750N	CHALK WEED	4	3,480	8,990	36,493	U
116	0603751N	RETRACT ELM	4	42,106	75,907	105,085	U
117	0603752N	CHALK POINSETTIA	4				U
118	0603763N	Warfare Systems Architecture and Engineering	4	9,617	6,783	6,891	U
119	0603784N	Fixed Distributed System - Adv	4	99,020			U
120	0603785N	Anti-Submarine Warfare Environmental Acoustic Support	4	16,414	30,945	17,428	U
121	0603787N	Special Processes	4	37,933	34,546	31,819	U
122	0604203N	Standard Avionics Development	4	11,571	15,366	7,589	U
123	0604211N	IFF System Development	4	19,212	7,513	11,772	U
124	0604212N	LAMPS	4	9,940	5,929	21,627	U
125	0604213N	Helicopter Development	4	11,518	17,704	65,645	U
126	0604214N	AV-8B Aircraft - Eng Dev	4	37,046	27,206	30,704	U
127	0604215N	Support Equipment	4	69,471	54,343	22,843	U
128	0604218N	Air/Ocean Equipment Engineering	4	2,007	2,401	2,852	U
129	0604219N	Airborne ASW Developments	4		11,788	12,708	U
130	0604221N	P-3 Modernization Program	4	199,676	340,140	280,724	U
131	0604233N	Advanced Tactical Aircraft	4				U
132	0604260N	C/MH-53E	4	8,369	7,835	19,928	U
133	0604261N	Acoustic Search Sensors	4	34,767	33,359	35,689	U
134	0604262N	V-22A	4	301,256	255,000		U

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				FY 1989	FY 1990	FY 1991 c
135	0604264N	Air Crew Systems Development	4	16,465	20,892	20,891 U
136	0604268N	Aircraft Engine Component Improvement Program	4	39,482	35,719	41,884 U
137	0604270N	EW Development	4	167,893	124,830	146,689 U
138	0604301N	MK 92 Fire Control System Upgrade	4	4,275	487	3,365 U
139	0604303N	AEGIS Area Air Defense	4	8,111	8,814	7,659 U
140	0604307N	AEGIS Combat System Engineering	4	58,096	53,166	91,819 U
141	0604309N	SEA LANCE	4	78,122	81,503	U
142	0604314N	Advanced Medium Range Air-to-Air Missile	4	12,452	6,954	3,685 U
143	0604354N	Air-to-Air Missile Systems Engineering	4	24,657	27,328	26,487 U
144	0604355N	Vertical Launch ASROC	4	29,493	2,000	30,000 U
145	0604358N	Close-In Weapon System (PHALANX)	4	7,399	5,852	6,443 U
146	0604361N	NATO SEA SPARROW	4	4,840	4,764	6,007 U
147	0604366N	Standard Missile Improvements	4	54,559	55,500	44,734 U
148	0604367N	TOMAHAWK	4	41,547	18,143	15,353 U
149	0604369N	5"Rolling Air Frame Missile	4	7,285	5,120	2,950 U
150	0604370N	SSN-688 Class Vertical Launch System	4	13,496	8,714	12,639 U
151	0604372N	New Threat Upgrade	4	10,788	7,194	12,443 U
152	0604373N	Airborne Mine Countermeasures - Eng Dev	4	2,550	8,272	U
153	0604502N	Submarine Communications	4	3,745	7,163	11,417 U
154	0604503N	Submarine Sonar Development	4	36,140	26,400	42,356 U

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		FY 1989	FY 1990	
			FY 1991 c	
155	0604504N Air Control	4	19,661	18,632
156	0604506N Chemical Warfare Countermeasures	4	5,805	7,310
157	0604507N Navy Standard Signal Processors	4	31,616	28,215
158	0604508N Radar Surveillance Equipment	4	6,064	5,841
159	0604515N Submarine Support Equipment Program	4	19,053	10,933
160	0604516N Ship Survivability	4	5,765	6,797
161	0604518N Combat Information Center Conversion	4	16,639	20,285
162	0604524N Submarine Combat System	4	365,691	340,863
163	0604561N SSN-21 Developments	4	187,206	181,864
164	0604562N Submarine Tactical Warfare System	4	42,716	58,186
165	0604567N Ship Subsystem Development/Land Based Test Site	4	55,167	50,729
166	0604574N Navy Tactical Computer Resources	4	10,405	29,178
167	0604575N AN/SQS-53C	4	2,896	
168	0604578N LINK BIRCH	4	1,913	2,431
169	0604601N Mine Development	4	10,027	11,350
170	0604602N Naval Gunnery Improvements	4	7,603	13,503
171	0604603N Unguided Conventional Air-Launched Weapons	4	1,930	11,438
172	0604604N Chemical Warfare Weapons	4	500	
173	0604608N Surface Electro-Optic System	4	9,637	16,573
174	0604609N Bomb Fuze Improvement	4	9,350	13,587

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				FY 1989	FY 1990	FY 1991 C
175	0604610N	MK 50 Torpedo	4	134,333	59,138	39,038 U
176	0604612M	Marine Corps Mine Countermeasures Systems - Eng Dev	4		26,329	31,025 U
177	0604654N	Joint Service Explosive Ordnance Development	4	5,216	5,553	6,076 U
178	0604656M	Marine Corps Assault Vehicles - Eng Dev	4	20,012	18,977	22,934 U
179	0604657M	Marine Corps Ground Combat/Supporting Arms System - Eng Dev	4		194	204 U
180	0604704N	Anti-Submarine Warfare Oceanographic Equipment	4	1,208	1,231	967 U
181	0604707N	Over-the-Horizon Targeting	4	17,748	3,221	4,142 U
182	0604708N	Initial Trainer Acquisition	4	57,713		U
183	0604710N	Navy Energy Program	4	4,692	2,811	3,455 U
184	0604713N	Surface ASW System Improvement	4		94,937	122,609 U
185	0604715N	Surface Warfare Training Devices	4	18,337	17,213	12,357 U
186	0604717M	Marine Corps Combat Services Support	4	20,422	2,194	3,545 U
187	0604718M	Marine Corps Intelligence/Electronics Warfare System	4	958	972	1,182 U
188	0604719M	Marine Corps Command/Control/Communications Systems	4	21,104	28,070	13,822 U
189	0604727N	Joint Standoff Weapon Systems	4		8,595	24,961 U
190	0604761N	Intelligence	4	8,228	5,785	2,538 U
191	0604771N	Medical Developments	4	2,998	4,169	3,999 U
192	0604780M	JINTACCS Marine Corps	4	960	1,965	1,104 U
193	0604784N	Fixed Distributed System - Eng	4		141,214	210,176 U
194	0605155N	Fleet Tactical Development and Evaluation	4	15,112	14,290	14,936 U

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195	0605803N Electromagnetic Spectrum Management	4	2,002	3,438	3,642 U
196	0605853N Management and Technical Support	4	6,675	8,049	9,404 U
197	0605867N C2 Surveillance/Reconnaissance Support	4	10,726	9,450	9,983 U
198	0204134N A-6 Squadrons	4	2,480	26,492	21,457 U
199	0204136N F/A-18 Squadrons	4	10,080	35,957	79,215 U
200	0204152N Early Warning Aircraft Squadrons	4	22,562	37,818	37,450 U
201	0204154N Sea-Based Electronic Warfare Squadrons	4		9,700	1,703 U
202	0204163N Fleet Telecommunications (Tactical)	4	8,625	9,276	8,985 U
203	0204229N Surface Combatant Ordnance and Missiles	4		31,337	33,700 U
204	0204311N Undersea Surveillance Systems	4	43,239	39,712	46,849 U
205	0204313N Ship-Towed Array Surveillance Systems	4	5,260	5,397	5,798 U
206	0204413N Amphibious Tactical Support Units	4			4,097 U
207	0204571N Special Projects	4	6,054	6,692	5,064 U
208	0205601N HARM Improvement	4	3,252	4,959	U
209	0205604N Tactical Information System	4	113,735	91,603	75,999 U
210	0205620N ASW Combat Systems Integration	4	13,991	14,866	19,253 U
211	0205633N Aircraft Equipment Reliability/Maintainability Program	4		977	1,445 U
212	0205658N Laboratory Fleet Support	4	5,451	5,373	6,796 U
213	0205667N F-14 Upgrade	4	152,638	117,826	121,428 U
214	0205670N Tactical Intelligence Processing	4	2,118	4,198	4,895 U

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Line Element No	Program	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 c
215	0205675N	Operational Reactor Development	4	37,258	45,512	56,614 U
216	0206313M	Marine Corps Telecommunications	4	7,766	5,974	5,485 U
217	0206623M	Marine Corps Ground Combat/Supporting Arms Systems	4	38,162	62,377	43,725 U
218	0206624M	Marine Corps Combat Services Support	4	3,209	2,710	1,839 U
219	0206625M	Marine Corps Intelligence/Electronics Warfare Systems	4	21,415	25,745	34,053 U
220	0206626M	Marine Corps Command/Control/Communications Systems	4	20,106	21,183	27,018 U
221	0207316N	TACIT RAINBOW	4	5,760	3,893	U
222	0208010M	Joint Tactical Communications Program (TRI-TAC)	4	3,705	576	2,010 U
223	1110011N	Force Enhancements-Active	4	28,920	35,005	U
Tactical Programs				6,037,372	6,523,358	6,146,247
224	0603783N	Integrated Platform Communications Development	5	1,379		U
225	0604230N	Warfare Support System	5	29,623	28,518	13,605 U
226	0604231N	Tactical Command System	5	29,193	34,786	49,614 U
227	0604514N	Navigation Systems	5		5,547	5,339 U
228	0604577N	EHF SATCOM	5	31,402	22,268	17,579 U
229	0604777N	NAVSTAR GPS	5	39,707	43,771	52,396 U
230	0605866N	Navy Command and Control Planning and Development	5	2,853	3,046	3,139 U
231	0301327N	Technical Reconnaissance and Surveillance	5			U
232	0303109N	Satellite Communications	5	16,405	15,876	13,723 U

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Program Element No	Item Nomenclature	Act	Thousands of Dollars		
			FY 1989	FY 1990	FY 1991 C
233	0303401N Communications Security (COMSEC)	5			U
234	0303603N Milstar Satellite Communications System	5	4,397	5,001	4,591 U
235	0304111N Special Activities	5			U
	Intelligence and Communications		723,307	860,106	873,640
236	0603721N Environmental Protection	6	6,072	10,687	11,560 U
237	0604208N Range Instrumentation Systems Development (RISD)	6	7,714	8,786	9,789 U
238	0604255N Electronic Warfare Simulator Development	6	18,265	29,414	39,577 U
239	0604258N Target Systems Development	6	83,348	52,002	53,939 U
240	0604703N Personnel, Training, Simulation, and Human Factors	6	1,011	994	1,069 U
241	0605151M Studies and Analysis Support - MC	6	1,291	1,420	2,243 U
242	0605152N Studies and Analysis Support - Navy	6	5,145	2,061	3,782 U
243	0605153M Marine Corps Operations Analysis Group, CNA	6	5,508	4,667	4,549 U
244	0605154N Center for Naval Analyses	6	21,589	27,909	26,196 U
245	0605156M Marine Corps Operational Test and Evaluation	6	755	851	958 U
246	0605502N Small Business Innovative Research	6	62,700		U
247	0605804N Technical Information Services	6	2,823	2,553	2,977 U
248	0605854M Marine Corps Development Center Support	6	8,650		U
249	0605857N International RDT&E	6	3,087	3,037	4,042 U
250	0605861N RDT&E Laboratory and Facilities Management Support	6	51,758	51,847	59,655 U

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Thousands of Dollars

Line Element No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
251	0605862N	RD&E Instrumentation and Materiel Support	6	33,182	26,889	22,011 U
252	0605863N	RD&E Ship and Aircraft Support	6	83,947	73,305	85,257 U
253	0605864N	Test and Evaluation Support	6	317,216	317,866	345,929 U
254	0605865N	Operational Test and Evaluation Capability	6	8,944	5,000	6,472 U
255	0605871M	Marine Corps Tactical Exploitation of National Capabilities	6	1,056	1,190	1,863 U
256	0605872N	Productivity Investments	6	256	676	715 U
257	0305111N	weather Service	6	872	995	1,083 U
258	0305160N	Defense Meteorological Satellite Program (DMSP)	6	1,873	2,340	4,202 U
259	0708011N	Industrial Preparedness	6	43,310	48,456	41,827 U
Defensewide Mission Support				770,372	672,945	729,695
Total Research Development Test & Eval Navy				9,281,543	9,465,840	9,102,400

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Summary

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
<b>Summary Recap of Research Categories</b>			
Research	197,212	189,624	201,476
Exploratory Development	587,928	565,732	580,111
Advanced Development	2,309,320	2,241,592	2,097,089
Engineering Development	5,352,782	4,928,916	4,499,882
Management and Support	641,609	551,691	621,286
Research and Development (FYDP Program 6)	9,088,851	8,477,555	7,999,844
Operational Systems Development	5,579,333	5,019,329	5,276,456
<b>Total Research Development Test &amp; Eval AF</b>	<b>14,668,184</b>	<b>13,496,884</b>	<b>13,276,300</b>
<b>Summary Recap of Budget Activities</b>			
Technology Base	785,140	755,356	781,587
Advanced Technology Development	757,688	639,179	646,060
Strategic Programs	5,334,097	4,475,363	4,262,197
Tactical Programs	4,067,135	3,884,590	3,777,193
Intelligence and Communications	2,056,615	2,123,992	2,265,100
Defensewide Mission Support	1,667,509	1,618,404	1,544,163
<b>Total Research Development Test &amp; Eval AF</b>	<b>14,668,184</b>	<b>13,496,884</b>	<b>13,276,300</b>
<b>Summary Recap of FYDP Programs</b>			
Strategic Forces	451,605	384,168	415,489
General Purpose Forces	974,068	921,223	950,507
Intelligence and Communications	3,784,057	3,520,019	3,788,967
Airlift/Sealift	14,442	14,714	13,063
Guard and Reserve	78,998	19,945	
Research and Development (FYDP Program 6)	9,088,851	8,477,555	7,999,844
Central Supply and Maintenance	120,948	111,207	99,941
Administration and Assoc Activities		4,148	4,478
Support of Other Nations	3,114	3,177	4,011
Special Operations Forces	152,101	40,728	
<b>Total Research Development Test &amp; Eval AF</b>	<b>14,668,184</b>	<b>13,496,884</b>	<b>13,276,300</b>

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Line Element No	Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
Thousands of Dollars						
1	0601101F	In-House Laboratory Independent Research	1	6,942	7,450	8,318 U
2	0601102F	Defense Research Sciences	1	190,270	182,174	193,158 U
3	0602101F	Geophysics	1	36,093	36,868	36,457 U
4	0602102F	Materials	1	58,690	57,689	60,847 U
5	0602201F	Aerospace Flight Dynamics	1	71,479	65,911	67,378 U
6	0602202F	Human Systems Technology	1	52,825	48,928	51,142 U
7	0602203F	Aerospace Propulsion	1	66,458	66,128	62,583 U
8	0602204F	Aerospace Avionics	1	64,893	64,428	68,614 U
9	0602205F	Personnel, Training and Simulation	1	32,466	28,154	30,488 U
10	0602206F	Civil Engineering and Environmental Quality	1	6,577	5,860	5,615 U
11	0602302F	Rocket Propulsion	1	35,634	36,590	37,873 U
12	0602601F	Advanced Weapons	1	35,607	31,637	36,193 U
13	0602602F	Conventional Munitions	1	44,198	43,043	43,512 U
14	0602702F	Command Control and Communications	1	83,008	80,496	79,409 U
Technology Base						
				785,140	755,356	781,587
15	0603106F	Logistics Systems Technology	2	13,668	9,114	11,758 U
16	0603109F	INEWS/ICNIA	2	36,651	36,364	29,572 U
17	0603112F	Advanced Materials for Weapon Systems	2		8,639	15,042 U
18	0603202F	Aerospace Propulsion Subsystems Integration	2	20,666	20,527	28,404 U

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 Thousands of Dollars  
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Line Element No	Program No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
19	0603203F	Advanced Avionics for Aerospace Vehicles	2	24,499	24,431	32,308 U
20	0603205F	Aerospace Vehicle Technology	2	21,029	18,149	21,338 U
21	0603211F	Aerospace Structures	2	26,524	17,143	19,135 U
22	0603215F	Aerospace Propulsion and Power Technology	2	32,767	31,778	40,154 U
23	0603227F	Personnel, Training and Simulation Technology	2	8,276	7,420	8,198 U
24	0603231F	Crew Systems and Personnel Protection Technology	2	20,208	19,530	18,319 U
25	0603245F	Advanced Fighter Technology Integration	2	24,855	21,585	23,803 U
26	0603250F	Lincoln Laboratory	2	25,003	23,073	27,609 U
27	0603253F	Advanced Avionics Integration	2	10,735	13,963	15,079 U
28	0603269F	National Aero Space Plane Technology Program	2	228,443	192,483	158,000 U
29	0603270F	EW Technology	2	34,716	32,200	36,939 U
30	0603302F	Space and Missile Rocket Propulsion	2	8,562	10,988	12,568 U
31	0603363F	Armament Technology Integration	2	5,521	1,937	1,219 U
32	0603401F	Advanced Spacecraft Technology	2	7,947	16,676	13,023 U
33	0603410F	Space Systems Environmental Interactions Technology	2	3,909	3,840	4,252 U
34	0603452F	Very High Speed Integrated Circuits	2	43,680		U
35	0603601F	Conventional Weapons	2	24,840	24,188	29,497 U
36	0603605F	Advanced Weapons Technology	2	88,411	66,105	55,904 U
37	0603707F	Weather Systems - Adv Dev	2	5,247	5,494	5,622 U
38	0603723F	Civil and Environmental Engineering Technology	2	7,567	7,668	10,170 U

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Program Line Element No Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
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Thousands of Dollars					
39	0603726F C3I Subsystem Integration	2	7,971	7,465	9,446 U
40	0603728F Advanced Computer Technology	2	6,979	7,607	9,073 U
41	0603751F Training Systems Technology	2	467		U
42	0603789F C3 Advanced Development	2	18,547	8,527	9,628 U
43	1140011F Advanced Special Operations Research, Development and Acquisition	2		2,285	U
Advanced Technology Development			757,688	639,179	646,060
44	0603105F Olympic	3			U
45	0603110F Special Evaluation Program	3			U
46	0603111F Meridian	3			U
47	0603311F Advanced Strategic Missile Systems	3	139,780	69,904	100,344 U
48	0603321F Bell Weather	3			U
49	0603364F Short Range Attack Missile II (SRAM II) - Adv Dev	3	190,883		U
50	0603367F Relocatable Target Capability Program	3	19,133	6,357	7,049 U
51	0603428F Space Surveillance Technology	3			34,138 U
52	0603717F Technical On-site Inspection Program	3	9,150		U
53	0604226F B-1B	3	218,828		U
54	0604240F B-2 Advanced Technology Bomber	3	2,176,534	1,881,448	1,566,692 U
55	0604244F Short Range Attack Missile II (SRAM II) - Eng Dev	3		215,630	156,882 U
56	0604312F ICBM Modernization	3	844,670	889,010	757,671 U

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Line Element No	Program Element No	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 e
57	0604326F	Strategic Conventional Standoff Capability (SCSC)	3	27,810		U
58	0604361F	Air Launched Cruise Missile (ALCM)	3	835	1,347	U
59	0604711F	Systems Survivability (Nuclear Effects)	3	8,054	7,626	8,839 U
60	0101120F	Advanced Cruise Missile	3	96,950	42,998	52,307 U
61	0101142F	KC-135 Squadrons	3	3,111	2,189	3,573 U
62	0101213F	Minuteman Squadrons	3	33,392	60,000	87,442 U
63	0101312F	PACCS and WWBNCP System EC-135 Class V Mods	3	1,185	1,186	1,278 U
64	0101313F	War Planning Automated Data Processing (ADP) - SAC	3	18,636	13,811	4,764 U
65	0101815F	Advanced Strategic Programs	3			U
66	0102310F	NCMC - TW/AA Systems	3	68,456	113,620	104,889 U
67	0102311F	NCMC - Space Defense Systems	3	23,032		U
68	0102313F	Ballistic Missile Tactical Warning/Attack Assessment System	3	2,481		U
69	0102325F	Joint Surveillance System	3	1,662	1,614	1,678 U
70	0102411F	Surveillance Radar Stations/Sites	3	1,559	6,290	8,204 U
71	0102412F	Distant Early Warning (DEW) Radar Stations	3			1,047 U
72	0102417F	Over-the-Horizon Backscatter Radar	3	18,389	20,215	12,851 U
73	0102423F	Ballistic Missile Early Warning System (BMEWS)	3	23,558	16,314	22,329 U
74	0102424F	SPACETRACK	3	12,295	15,626	15,527 U
75	0102431F	Defense Support Program	3	100,355	79,971	69,990 U
76	0102432F	Submarine-Launched Ballistic Missile (SLBM) Radar Warning System	3	9,815	3,599	2,294 U

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Line Element No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C	Thousands of Dollars		
77	0102433F	NUDET Detection System	3	10,794	6,735	5,125	U		
78	0102436F	Command Center Processing and Display System	3	25,935			U		
79	0303131F	Minimum Essential Emergency Communications Network (MEECN)	3	41,420	10,034	9,677	U		
80	0303152F	World-Wide Military Command and Control Systems, Information System	3	2,271	3,435	1,540	U		
81	0303154F	WWMCCS ADP Modernization	3	61,749			U		
82	0303601F	Milstar Satellite Communications System (AF Terminals)	3	305,345	210,193	24,425	U		
83	0303603F	Milstar Satellite Communications System	3	272,778	400,000	744,164	U		
84	0305124F	Special Applications Program	3				U		
85	0305172F	BERNIE	3				U		
86	0305892F	Special Analysis Activities	3				U		
87	0401123F	Military Airlift Group (IF)	3	827			U		
		Strategic Programs		5,334,097	4,475,363	4,262,197			
88	0603107F	Technical Evaluation System	4				U		
89	0603230F	Advanced Tactical Fighter	4	674,531	1,045,892	763,923	U		
90	0603260F	Intelligence Advanced Development	4	4,892	5,156	4,382	U		
91	0603307F	Air Base Operability Advanced Development	4	4,961	2,794	3,430	U		
92	0603320F	Low Cost Anti-Radiation Seeker	4	12,191	7,632		U		
93	0603617F	Command, Control, and Communication Applications	4	7,826	7,826	8,221	U		
94	0603742F	Combat Identification Technology	4	1,920	1,959	2,026	U		

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Line Element No	Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
95	0603801F	Special Programs	4			U
96	0604201F	Aircraft Avionics Equipment Development	4	20,651	13,157	13,295 U
97	0604212F	Aircraft Equipment Development	4	3,113	1,471	2,942 U
98	0604218F	Engine Model Derivative Program (EMDP)	4	935	450	1,019 U
99	0604222F	Nuclear Weapons Support	4	2,129	2,232	2,838 U
100	0604223F	Alternate Fighter Engine	4	31,127	61,758	5,104 U
101	0604231F	C-17 Program	4	905,520	885,227	541,081 U
102	0604233F	Tanker, Transport, Bomber Training System	4	4,081	3,602	2,401 U
103	0604236F	Infrared Search and Track System	4	4,542	2,449	U
104	0604237F	Variable Stability In-Flight Simulator Test Aircraft	4	7,731	12,348	7,316 U
105	0604239F	Advanced Tactical Fighter FSD	4			283,441 U
106	0604242F	Advanced Tactical Aircraft	4			U
107	0604245F	Short Range Attack Missile - Tactical (SRAM-T)	4		54,650	118,581 U
108	0604247F	Modular Automatic Test Equipment	4	11,423	13,926	13,047 U
109	0604249F	Night/Precision Attack	4	6,353	11,514	7,692 U
110	0604250F	Integrated EW/CNI Development	4	119,568	103,194	16,608 U
111	0604268F	Aircraft Engine Component Improvement Program	4	93,380	75,900	93,561 U
112	0604270F	EW Development	4	96,191	70,256	159,351 U
113	0604315F	Advanced Short Range Air-to-Air Missile (ASRAAM)	4	980		U
114	0604321F	Joint Tactical Fusion Program	4	7,947	4,796	U

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				FY 1989	FY 1990	FY 1991 C
115	0604327F	Hardened Target Munitions	4	6,122	6,408	U
116	0604601F	Chemical/Biological Defense Equipment	4	17,620	7,945	8,350 U
117	0604602F	Armament/Ordnance Development	4	14,846	4,236	10,837 U
118	0604604F	Submunitions	4	7,162	6,349	7,596 U
119	0604607F	Wide-Area, Anti-Armor Munitions	4	25,942	25,125	23,879 U
120	0604617F	Air Base Operability	4	13,787	11,154	6,512 U
121	0604703F	Aeromedical Systems Development	4	6,680	5,847	7,499 U
122	0604704F	Common Support Equipment Development	4	1,255	6,967	15,119 U
123	0604706F	Life Support Systems	4	16,983	12,937	12,586 U
124	0604708F	Civil, Fire, Environmental, Shelter Engineering	4	7,119	2,230	2,191 U
125	0604725F	Combat Identification Systems	4	82,612	34,037	U
126	0604733F	Surface Defense Suppression	4	42,435	8,922	11,158 U
127	0604740F	Computer Resources Management Technology	4	12,960	11,662	12,610 U
128	0604750F	Intelligence Equipment	4	4,778	3,522	3,911 U
129	0604754F	Joint Tactical Information Distribution System (JTIDS)	4	48,764	17,651	38,312 U
130	0604756F	Side Looking Airborne Radar	4	5,216	8,155	4,135 U
131	0604770F	Joint Surveillance/Target Attack Radar System (JSTARS)	4	232,112	88,083	232,483 U
132	0604779F	Joint Interoperability of Tactical Command & Control Systems (JINTACCS)	4	5,707	6,271	6,632 U
133	0207129F	F-111 Squadrons	4	20,961	32,369	11,317 U
134	0207130F	F-15A/B/C/D Squadrons	4	84,780	2,749	U

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			FY 1989	FY 1990	FY 1991 c
135 0207131F	A-10 Squadrons	4	6,000	1,983	U
136 0207133F	F-16 Squadrons	4	23,112	25,000	70,056 U
137 0207134F	F-15E Squadrons	4	83,584	89,110	U
138 0207136F	F-4G WILD WEASEL Squadrons	4	4,487	2,625	U
139 0207137F	CONSTANT HELP	4			U
140 0207141F	F-117A Squadrons	4			U
141 0207162F	Tactical AGM Missiles	4	3,881	2,485	509 U
142 0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	4	14,929	25,516	U
143 0207168F	F-111 Self Protection Systems	4	4,560		U
144 0207169F	SEEK CLOCK	4			U
145 0207215F	TR-1 Squadron	4	99,115	110,710	54,764 U
146 0207217F	Follow-On Tactical Reconnaissance System	4	59,797	64,850	47,248 U
147 0207247F	AF TENCAP	4	822	335	346 U
148 0207316F	TACIT RAINBOW	4	39,124	20,997	9,759 U
149 0207411F	Overseas Air Weapon Control System	4	8,912	1,387	2,311 U
150 0207412F	Tactical Air Control Systems	4	13,080	17,212	17,075 U
151 0207417F	Airborne Warning and Control System (AWACS)	4	117,024	114,900	133,810 U
152 0207423F	Advanced Communications Systems	4	10,228	11,228	6,385 U
153 0207424F	Copper Coast	4			U
154 0207431F	Tactical Air Intelligence System Activities	4	462	484	U

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Line No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c	
155	0207433F	Tactical Improvement Program	4				U
156	0207435F	Tactical Reconnaissance Imagery and Exploitation	4	1,525			U
157	0207579F	Advanced Systems Improvements	4				U
158	0207585F	SEEK SPINNER	4	19,900			U
159	0207590F	Seek Eagle	4		16,497	14,549	U
160	0207591F	OMEGA	4				U
161	0208006F	Mission Planning Systems	4		2,485	18,146	U
162	0208010F	Joint Tactical Communications Program (TRI-TAC)	4	1,214	3,514	4,833	U
163	0208021F	Electronic Combat Support	4		2,490	2,770	U
164	0208042F	HAVE FLAG	4				U
165	0303605F	Satellite Communications Terminals	4	17,653	5,915	6,071	U
166	0305137F	National Airspace System (NAS) Plan	4			35,000	U
167	0305142F	CENTENNIAL	4				U
168	0305158F	Constant Source	4			6,714	U
169	0305887F	Electronic Combat Intelligence Support	4		1,744	1,841	U
170	0401316F	Senior Citizen	4				U
171	0401840F	MAC Command and Control System	4	9,907	10,919	11,626	U
172	0502610F	A-7 Squadrons (ANG)	4	78,998	19,945		U
173	1110011F	Force Enhancements-Active	4	152,101	38,443		U
		Tactical Programs		4,067,135	3,884,590	3,777,193	

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Department of the Air Force  
 FY 1991 R D T & E Program

Exhibit R-1

Appropriation: 3600 F Research Development Test & Eval AF

Date: 29 Jan 1990

Line No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars			U
				FY 1989	FY 1990	FY 1991 c	
174	0301305F	Intelligence Production Activities	5				U
175	0301310F	Foreign Technology Division	5				U
176	0301314F	Infrared/Electro-Optical/Dir. Energy Weapons Processing and Exploitation	5				U
177	0301315F	Missile and Space Technical Collection	5				U
178	0301317F	SENIOR YEAR Operations	5				U
179	0301324F	FOREST GREEN	5				U
180	0301357F	NUDET Detection System	5				U
181	0303110F	Defense Satellite Communications System	5	32,565	25,105	16,484	U
182	0303126F	Long-Haul Communications (DCS)	5	4,304	3,215	3,570	U
183	0303144F	Electromagnetic Compatibility Analysis Center (ECAC)	5	8,395	8,746	9,637	U
184	0303401F	Communications Security (COMSEC)	5				U
185	0304111F	Special Activities	5				U
186	0305114F	Traffic Control, Approach, and Landing System (TRACALS)	5	30,613	20,809	16,557	U
187	0305159F	Defense Reconnaissance Support Activities *	5				U
188	0305164F	NAVSTAR Global Positioning System (User Equipment)	5	40,736	35,171	12,923	U
189	0305165F	NAVSTAR Global Positioning System (Space and Control Segments)	5	46,421	32,863	48,871	U
190	0305185F	CAVALRY	5				U
Intelligence and Communications				2,056,115	2,123,992	2,265,100	
191	0603402F	Space Test Program	6	43,391	48,951	51,524	U

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Department of the Air Force  
FY 1991 R D T & E Program

Exhibit R-1

Appropriation: 3600 F Research Development Test & Eval AF

Date: 29 Jan 1990

Line No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 c
192	0603438F	Satellite Systems Survivability	6	4,873	10,266	10,558 U
193	0604211F	Advanced Aerial Target Development	6	3,631	3,248	16,209 U
194	0604227F	Training Systems Development	6	64,045	58,186	41,220 U
195	0604243F	Manpower, Personnel and Training Development	6	4,392	4,392	3,194 U
196	0604408F	Advanced Launch System	6	86,222	60,314	60,314 U
197	0604609F	R&M Maturation/Technology Insertion	6	22,388	19,166	19,532 U
198	0604707F	Weather Systems - Early Dev	6	8,420	4,775	5,361 U
199	0604735F	Range Improvement	6	20,196	80,963	100,928 U
200	0604747F	Electromagnetic Radiation Test Facilities	6	5,253	4,181	4,788 U
201	0604755F	Improved Capability for Development Test & Evaluation	6	51,269	51,529	45,720 U
202	0605101F	Project Air Force	6	21,881	23,320	24,611 U
203	0605306F	Ranch Hand II Epidemiology Study	6	313	1,375	1,524 U
204	0605502F	Small Business Innovative Research	6	71,145		U
205	0605708F	Navigation/Radar/Sled Track Test Support	6	20,394	23,032	27,223 U
206	0605712F	Initial Operational Test and Evaluation	6			20,884 U
207	0605807F	Test and Evaluation Support	6	301,105	294,352	318,639 U
208	0605808F	Development Planning	6	17,052	6,814	9,138 U
209	0605809F	DYCOMS	6	9,053	4,968	3,369 U
210	0605863F	RD&E Aircraft Support	6	54,146	54,249	61,793 U
211	0605894F	Real Property Maintenance - RD&E	6	82,640	81,544	92,383 U

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Department of the Air Force  
 FY 1991 R D T & E Program

Exhibit R-1

Appropriation: 3600 F Research Development Test & Eval AF

Date: 29 Jan 1990

Line Element No	Program Element Number	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 c
212	0605896F	Base Operations - RDT&E	6	63,880	62,037	61,722 U
213	0305110F	Satellite Control Network	6	92,254	85,579	127,454 U
214	0305119F	Medium Launch Vehicles	6	462,092	361,527	234,297 U
215	0305130F	Consolidated Space Operations Center	6	34,913	26,938	24,323 U
216	0305160F	Defense Meteorological Satellite Program (DMSP)	6	51,381	47,641	49,666 U
217	0305171F	Space Shuttle Operations	6	37,732	54,617	19,059 U
218	070112F	Inventory Control Point Operations	6	4,399	4,621	4,881 U
219	0702207F	Depot Maintenance (Non-IF)	6	953	2,428	2,740 U
220	0708011F	Industrial Preparedness	6	96,430	85,000	72,133 U
221	0708026F	Productivity, Reliability, Availability, Maintain. Prog Ofc (PRAMPO)	6	19,166	19,158	20,187 U
222	0901218F	Civilian Compensation Program	6		4,148	4,478 U
223	1001004F	International Activities	6	3,114	3,177	4,011 U
Defensewide Mission Support				1,667,509	1,618,404	1,544,163
Total Research Development Test & Eval AF				14,668,184	13,496,884	13,276,300

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Defense Agencies  
 FY 1991 R D T & E Program

Exhibit R-1

Date: 29 Jan 1990

Summary

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
<b>Summary Recap of Research Categories</b>			
Research	230,173	186,338	186,261
Exploratory Development	952,019	850,590	831,125
Advanced Development	4,851,827	4,911,930	5,504,777
Engineering Development	95,404	94,482	396,369
Management and Support	234,688	119,903	134,100
Research and Development (FYDP Program 6)	6,364,111	6,163,243	7,052,632
Operational Systems Development	1,817,826	1,982,250	2,196,668
<b>Total Research Development Test &amp; Eval Def Ag</b>	<b>8,181,937</b>	<b>8,145,493</b>	<b>9,249,300</b>
<b>Summary Recap of Budget Activities</b>			
Technology Base	1,196,770	1,036,928	1,017,386
Advanced Technology Development	4,459,368	4,490,572	4,985,856
Strategic Programs	244,856	311,927	764,939
Tactical Programs	193,735	354,871	497,414
Intelligence and Communications	1,678,464	1,694,303	1,723,262
Defensewide Mission Support	408,744	256,892	260,443
<b>Total Research Development Test &amp; Eval Def Ag</b>	<b>8,181,937</b>	<b>8,145,493</b>	<b>9,249,300</b>
<b>Summary Recap of FYDP Programs</b>			
General Purpose Forces	25,491	62,669	55,245
Intelligence and Communications	1,748,738	1,863,988	1,900,242
Research and Development (FYDP Program 6)	6,364,111	6,163,243	7,052,632
Central Supply and Maintenance	19,269	33,871	31,588
Support of Other Nations	434	1,525	2,441
Special Operations Forces	23,894	20,197	207,152
<b>Total Research Development Test &amp; Eval Def Ag</b>	<b>8,181,937</b>	<b>8,145,493</b>	<b>9,249,300</b>

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Defense Agencies  
 FY 1991 R D T & E Program

Exhibit R-1

Summary

Date: 29 Jan 1990

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
Summary Recap of Defense Agencies			
Defense Mapping Agency	302,667	265,486	232,100
Strategic Defense Initiative Orgzn	3,627,424	3,571,211	4,460,000
Office of Secretary/Defense	1,076,328	1,032,460	1,054,715
Defense Advanced Research Projects Agcy	1,289,092	1,227,022	1,078,321
National Security Agency			
Defense Nuclear Agency	329,532	356,849	446,066
Defense Support Project Office	137,355	123,247	225,721
Joint Chiefs of Staff			84,624
Defense Communications Agency	182,443	232,626	174,068
Defense Intelligence Agency			
Defense Logistics Agency	61,260	53,365	42,692
Uniformed Services University (USUHS)	2,070	2,188	2,342
Special Operations Command			207,152
Total Research Development Test & Eval Def Ag	8,181,937	8,145,493	9,249,300

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Defense Agencies  
FY 1991 R D T & E Program

Exhibit R-1

Appropriation: 0400 D Research Development Test &amp; Eval Def Ag

Date: 29 Jan 1990

Program Line Element No Number	Item Nomenclature	Act	Thousands of Dollars			S e C
			FY 1989	FY 1990	FY 1991 C	
1 0601101E	Defense Research Sciences	1	88,603	78,150	85,238	U
2 0601101W	In-House Laboratory Independent Research	1	2,070	2,188	2,342	U
3 0601103D	University Research Initiatives	1	95,000	96,000	98,681	U
4 0601107D	HF Active Auroral Research Program	1		10,000		U
5 0602101E	Technical Studies	1	1,800			U
6 0602108D	Center for Advancement of Scientists, Engineers, and Technologists	1	3,000			U
7 0602109H	Super Conductive Magnetic Energy Storage	1		11,000	15,000	U
8 0602301E	Strategic Technology	1	343,461	233,863	207,749	U
9 0602702E	Tactical Technology	1	154,105	120,616	121,535	U
10 0602707E	Particle Beam Technology	1	14,000	14,000	14,500	U
11 0602708E	Integrated Command and Control Technology	1	32,953	52,900	37,553	U
12 0602712E	Materials and Electronics Technology	1	37,344	56,320	43,096	U
13 0602714E	Nuclear Monitoring	1	35,824	35,042	36,626	U
14 0602715H	Defense Nuclear Agency	1	329,532	326,849	355,066	U
15 0605134D	Threat Simulator Development	1	59,078			U
Technology Base			1,196,770	1,036,928	1,017,386	
16 0603220C	SDI-Surveillance, Acquisition, Tracking and Kill Assessment	2	1,076,489	1,232,236	1,306,669	U
17 0603221C	SDI-Directed Energy Weapons	2	867,522	703,320	802,954	U
18 0603222C	SDI-Kinetic Energy Weapons	2	757,608	744,628	1,017,681	U

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Defense Agencies  
FY 1991 R U T & E Program

Exhibit R-1

Appropriation: 0400 D Research Development Test &amp; Eval Def Ag

Date: 29 Jan 1990

Line Element No	Program	Item Nomenclature	Act	Thousands of Dollars			U
				FY 1989	FY 1990	FY 1991 c	
19	0603223C	SDI-Systems and Battle Management	2	485,800	550,021	674,016	U
20	0603224C	SDI-Survivability, Lethality, and Key Support Technology	2	415,810	341,006	393,640	U
21	0603225D	Joint DoD-DoE Munitions Technology Development	2	16,738	7,933	8,572	U
22	0603226E	Experimental Evaluation of Major Innovative Technologies	2	232,556	188,950	179,397	U
23	0603227E	Relocatable Target Detection Technology Program	2	12,266	19,000	22,702	U
24	0603569E	Advanced Submarine Technology	2	92,634	95,000		U
25	0603704D	Special Technical Support	2		24,986	11,191	U
26	0603706E	Microwave/Millimeter Wave Monolithic Integrated Circuits (MIMIC)	2	65,827	78,185	86,057	U
27	0603707E	Prototyping of Advanced Technologies and Innovative Concepts	2		81,054	64,242	U
28	0603736D	Computer Aided Logistics Support	2	11,403	12,867	13,779	U
29	0603737D	Balanced Technology Initiative	2	212,058	206,082	209,187	U
30	0603738D	Cooperative DoD/VA Medical Research	2	17,000	20,000		U
31	0603739E	Semiconductor Manufacturing Technology	2	100,000	100,000	100,000	U
32	0603756D	Consolidated DoD Software Initiative	2	24,816	11,263	12,661	U
33	0603756E	Consolidated DoD Software Initiative	2	35,756	32,426	34,572	U
34	0305108K	Command and Control Research	2	2,551	2,408	2,486	U
35	0702807E	Infrared Focal Plane Array	2	8,640	19,010	20,676	U
36	1110011D	Force Enhancements-Active	2	10,245	11,093		U
37	11400118B	Advanced Special Operations Research, Development and Acquisition	2			24,784	U
38	1140011D	Advanced Special Operations Research, Development and Acquisition	2	13,649	9,104		U
Advanced Technology Development				4,459,368	4,490,572	4,985,856	

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Defense Agencies  
FY 1991 R D T & E Program

Exhibit R-1

Date: 29 Jan 1990

Appropriation: 0400 D Research Development Test &amp; Eval Def Ag

Thousands of Dollars

Line Element No	Program Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C
39	0603711H Verification Technology Demonstration	3		19,000	76,000 U
40	0603734J Island Sun Support	3			84,624 U
41	0603734K Island Sun	3	56,267	57,995	U
42	0603741D Air Defense Initiative	3	155,131	149,909	246,920 U
43	0604220C Phase I Strategic Defense System	3			265,000 U
44	0302016K National Military Command System-Wide Support	3	6,515	12,885	12,088 U
45	0302019K WWMCCS Systems Engineer	3	17,226	16,674	16,952 U
46	0303131K Minimum Essential Emergency Communications Network (MEECN)	3	9,717	7,990	8,240 U
47	0303154K WWMCCS ADP Modernization	3		47,474	55,115 U
	Strategic Programs		244,856	311,927	764,939
48	0603228D Physical Security Equipment	4	34,461	32,782	34,022 U
49	0603709D Joint Robotics Program	4		21,586	22,000 U
50	0603710D Classified Program - C3I	4		36,116	U
51	0603714D Non-Acoustic ASW	4		29,982	U
52	0604702D Joint Standoff Weapons Program	4	33,378	18,825	55,448 U
53	0604771D Joint Tactical Information Distribution System (JTIDS)	4	60,120	70,657	66,232 U
54	0201135K CINC C2 Initiatives	4	719	1,913	1,974 U
55	0208045K C3 Interoperability (Joint Tactical C3 Agency)	4	22,483	54,297	46,682 U
56	0208298K Management Headquarters (Joint Tactical C3 Agency)	4	2,289	6,459	6,589 U

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Defense Agencies  
 FY 1991 R D T & E Program

Exhibit R-1

Date: 29 Jan 1990

Appropriation: 0400 D Research Development Test & Eval Def Ag

Program Line Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
Thousands of Dollars					
57	0305141D Joint Remotely Piloted Vehicles Program	4	40,285	82,254	82,099 U
58	11100118B Force Enhancements-Active	4			182,368 U
Tactical Programs			193,735	354,871	497,414
59	0603701B Mapping, Charting, Geodesy Investigations, and Prototype Development	5	4,114		U
60	0604701B Mapping, Charting, and Geodesy Engineering Development and Test	5	1,906		U
61	0301011G Cryptologic Activities	5			U
62	0301301L General Defense Intelligence Program	5			U
63	0303126K Long-Haul Communications (DCS)	5	52,480	20,768	20,516 U
64	0303127K Support of the National Communications System	5	12,196	3,763	3,426 U
65	0303401G Communications Security (COMSEC)	5			U
66	0305139B DMA Mapping, Charting, and Geodesy (MC&G) Production System Improve	5	293,997	260,962	224,725 U
67	0305154I Airborne Reconnaissance Support Program	5	100,561	87,000	179,900 U
68	0305159B Defense Reconnaissance Support Activities	5	2,650	4,524	7,375 U
69	0305159G Defense Reconnaissance Support Activities	5			U
70	0305159I Defense Reconnaissance Support Activities	5	36,794	36,247	45,821 U
71	0305167G Computer Security	5			U
72	0305884L Intelligence Planning & Review Activities	5			U
73	0305885G Tactical Cryptologic Activities	5			U
Intelligence and Communications			1,678,464	1,694,303	1,723,262

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Defense Agencies  
 FY 1991 R D T & E Program

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Appropriation: 0400 D Research Development Test & Eval Def Ag

Date: 29 Jan 1990

Thousands of Dollars

Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
74	0601106D Research Projects	6	44,500		U
75	0603708D Integrated Diagnostics	6			7,520 U
76	0603737D Balanced Technology Initiative	6	25,942		U
77	0603790D NATO Research and Development	6	151,629	115,603	95,781 U
78	0604722D Joint Service Education and Training Systems Development	6			9,689 U
79	0604722S Joint Service Education and Training Systems Development	6		5,000	U
80	0605104D Technical Support to USD(A)	6	18,796	18,259	17,138 U
81	0605106D General Support for P&E	6	2,180	1	2,524 U
82	0605107D General Support for Policy	6	5,471	3,648	5,713 U
83	0605108D General Support for Net Assessment	6	3,753	3,787	3,814 U
84	0605109D General Support for FM&P	6	1,531	1,527	1,635 U
85	0605110D Technical Support to USD(A)--Critical Technology	6	3,174	2,998	3,744 U
86	0605112D Rand National Defense Research Institute	6	17,261	18,172	20,918 U
87	0605114E BLACK LIGHT	6	3,600	6,000	6,000 U
88	0605116D General Support to C3I	6	2,534	2,154	2,269 U
89	0605117D Foreign Material Acquisition and Exploitation	6	10,203	10,649	11,095 U
90	0605119D General Support for P&L	6	2,558	2,698	3,281 U
91	0605502E Small Business Innovative Research	6	13,680		U
92	0605711D Critical Technology Analysis	6			4,611 U
93	0605711S Critical Technology Analysis	6	23,850	3,019	U

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Defense Agencies  
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Appropriation: 0400 D Research Development Test & Eval Def Ag

Date: 29 Jan 1990

Thousands of Dollars

Program Line Element No Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C
94 0605801S	Defense Technical Information Center	6	21,581	23,308	26,241 U
95 0605802S	Information Analysis Centers	6	5,200	5,377	5,539 U
96 0605803D	R&D in Support of DoD Enlistment, Testing and Evaluation	6			1,800 U
97 0605803S	R&D in Support of DoD Enlistment, Testing and Evaluation	6	1,800		U
98 0605898C	Management Headquarters (Strategic Defense Initiative)	6	24,195		U
99 0605898E	Management Headquarters (Research and Development)	6	16,043	16,506	17,778 U
100 0708011S	Industrial Preparedness	6	10,629	14,861	10,912 U
101 1001015D	Technology Security Functions	6	434	1,525	2,441 U
Defensewide Mission Support			408,744	256,892	260,443
Total Research Development Test & Eval Def Ag			8,181,937	8,145,493	9,249,300

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Defense Agencies  
 FY 1991 R D T & E Program

Exhibit R-1

Date: 29 Jan 1990

Summary

Thousands of Dollars

	FY 1989	FY 1990	FY 1991
<b>Summary Recap of Research Categories</b>			
Engineering Development Management and Support	31,500 117,608	81,930 96,291	185,899 162,201
Research and Development (FYDP Program 6)	149,108	178,221	348,100
Total Director of Test & Eval Defense	149,108	178,221	348,100
<b>Summary Recap of Budget Activities</b>			
Defensewide Mission Support	149,108	178,221	348,100
Total Director of Test & Eval Defense	149,108	178,221	348,100
<b>Summary Recap of FYDP Programs</b>			
Research and Development (FYDP Program 6)	149,108	178,221	348,100
Total Director of Test & Eval Defense	149,108	178,221	348,100

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Defense Agencies  
FY 1991 R D T & E Program

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Appropriation: 0450 D Director of Test & Eval Defense

Date: 29 Jan 1990

Thousands of Dollars

Program Line Element No Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
1	06049400 Test Instrumentation Development	6	30,000	81,930	185,899 U
2	06049410 Space System Test Capabilities	6	1,500		U
3	06051110 Foreign Weapons Evaluation	6	15,410		U
4	06051300 Foreign Comparative Testing	6	31,271	27,295	42,591 U
5	06051310 Live Fire Testing	6	8,741	10,710	U
6	06051320 Joint Technical Coordinating Group for Aircraft Survivability	6	7,086	7,778	U
7	06058040 Development Test and Evaluation	6	55,100	50,508	119,610 U
Defensewide Mission Support			149,108	178,221	348,100
Total Director of Test & Eval Defense			149,108	178,221	348,100

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FY 1991 R D T & E Program

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Summary  
Date: 29 Jan 1990  
Thousands of Dollars

Summary Recap of Research Categories	FY 1989	FY 1990	FY 1991
Engineering Development Management and Support	58,420	12,725	73,800
Research and Development (FYDP Program 6)	12,234	12,725	17,000
Total Director of Operational Test & Evaluation	70,654	12,725	90,800

Summary Recap of Budget Activities	FY 1989	FY 1990	FY 1991
Defensewide Mission Support	70,654	12,725	90,800
Total Director of Operational Test & Evaluation	70,654	12,725	90,800

Summary Recap of FYDP Programs	FY 1989	FY 1990	FY 1991
Research and Development (FYDP Program 6)	70,654	12,725	90,800
Total Director of Operational Test & Evaluation	70,654	12,725	90,800

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Defense Agencies  
FY 1991 R D T & E Program

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Appropriation: 0460 D Director of Operational Test & Evaluation

Date: 29 Jan 1990

Program Line Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
1	0604340D OT&E Capability Improvement	6	58,420		73,800 U
2	0605118D Operational Test and Evaluation	6	12,234	12,725	17,000 U
	Defensewide Mission Support		70,654	12,725	90,800
	Total Director of Operational Test & Evaluation		70,654	12,725	90,800

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Defense Mapping Agency  
 FY 1991 R D T & E Program

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Appropriation: 0400 D Research Development Test & Eval Def Ag Date: 29 Jan 1990

Line Element No	Program Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c	Thousands of Dollars
59	0603701B	Mapping, Charting, Geodesy Investigations, and Prototype Development	5	4,114			U
60	0604701B	Mapping, Charting, and Geodesy Engineering Development and Test	5	1,906			U
66	0305139B	DMA Mapping, Charting, and Geodesy (MC&G) Production System Improve	5	293,997	260,962	224,725	U
68	0305159B	Defense Reconnaissance Support Activities	5	2,650	4,524	7,375	U
Intelligence and Communications				302,667	265,486	232,100	
Total Defense Mapping Agency				302,667	265,486	232,100	

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Strategic Defense Initiative Orgzn  
 FY 1991 R D T & E Program

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Date: 29 Jan 1990

Appropriation: 0400 D Research Development Test & Eval Def Ag

Line Element No	Program Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C	Thousands of Dollars	
							1990	1991
16	0603220C	SDI-Surveillance, Acquisition, Tracking and Kill Assessment	2	1,076,489	1,232,236	1,306,669	U	
17	0603221C	SDI-Directed Energy Weapons	2	867,522	703,320	802,954	U	
18	0603222C	SDI-Kinetic Energy Weapons	2	757,608	744,628	1,017,681	U	
19	0603223C	SDI-Systems and Battle Management	2	485,800	550,021	674,056	U	
20	0603224C	SDI-Survivability, Lethality, and Key Support Technology	2	415,810	341,006	393,640	U	
Advanced Technology Development				3,603,229	3,571,211	4,195,000		
43	0604220C	Phase I Strategic Defense System	3			265,000	U	
Strategic Programs						265,000		
98	0605898C	Management Headquarters (Strategic Defense Initiative)	6	24,195			U	
Defensewide Mission Support				24,195				
Total Strategic Defense Initiative Orgzn				3,627,424	3,571,211	4,460,000		

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Office of Secretary/Defense  
FY 1991 R D T & E Program

Exhibit R-1

Appropriation: 0400 D Research Development Test & Eval Def Ag

Date: 29 Jan 1990

Thousands of Dollars

Program Line Element No Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c	U
3	0601103D University Research Initiatives	1	95,000	96,000	98,681	U
4	0601107D HF Active Auroral Research Program	1		10,000		U
6	0602108D Center for Advancement of Scientists, Engineers, and Technologists	1	3,000			U
15	0605134D Threat Simulator Development	1	59,078			U
Technology Base						
			157,078	106,000	98,681	
21	0603225D Joint DoD-DoE Munitions Technology Development	2	16,738	7,933	8,522	U
25	0603704D Special Technical Support	2		24,986	11,191	U
28	0603736D Computer Aided Logistics Support	2	11,403	12,867	13,779	U
29	0603737D Balanced Technology Initiative	2	212,058	206,082	209,187	U
30	0603738D Cooperative DoD/VA Medical Research	2	17,000	20,000		U
32	0603756D Consolidated DoD Software Initiative	2	24,816	11,263	12,661	U
36	1110011D Force Enhancements-Active	2	10,245	11,093		U
38	1140011D Advanced Special Operations Research, Development and Acquisition	2	13,649	9,104		U
Advanced Technology Development						
			305,909	303,328	255,340	
42	0603741D Air Defense Initiative	3	155,131	149,909	246,920	U
Strategic Programs						
			155,131	149,909	246,920	
48	0603228D Physical Security Equipment	4	34,461	32,782	34,022	U
49	0603709D Joint Robotics Program	4		21,586	22,000	U

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Line No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 e
Thousands of Dollars						
50	0603710D	Classified Program - C3I	4		36,116	U
51	0603714D	Non-Acoustic ASW	4		29,982	U
52	0604702D	Joint Standoff Weapons Program	4	33,378	18,825	55,448 U
53	0604771D	Joint Tactical Information Distribution System (JTIDS)	4	60,120	70,657	66,232 U
57	0305141D	Joint Remotely Piloted Vehicles Program	4	40,285	82,254	82,099 U
Tactical Programs						
74	0601106D	Research Projects	6	44,500	292,202	259,801 U
75	0603708D	Integrated Diagnostics	6			7,520 U
76	0603737D	Balanced Technology Initiative	6	25,942		U
77	0603790D	NATO Research and Development	6	151,629	115,603	95,781 U
78	0604722D	Joint Service Education and Training Systems Development	6			9,689 U
80	0605104D	Technical Support to USD(A)	6	18,796	18,259	17,138 U
81	0605106D	General Support for PA&E	6	2,180	1	2,524 U
82	0605107D	General Support for Policy	6	5,471	3,648	5,713 U
83	0605108D	General Support for Net Assessment	6	3,753	3,787	3,814 U
84	0605109D	General Support for FM&P	6	1,531	1,527	1,635 U
85	0605110D	Technical Support to USD(A)--Critical Technology	6	3,174	2,998	3,744 U
86	0605112D	Rand National Defense Research Institute	6	17,261	18,172	20,918 U
88	0605116D	General Support to C3I	6	2,534	2,154	2,269 U

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Program Line Element No Number	Item Nomenclature	Act	Thousands of Dollars		
			FY 1989	FY 1990	FY 1991 C
89 0605117D	Foreign Material Acquisition and Exploitation	6	10,203	10,649	11,095 U
90 0605119D	General Support for P&L	6	2,558	2,698	3,281 U
92 0605711D	Critical Technology Analysis	6			4,611 U
96 0605803D	R&D in Support of DoD Enlistment, Testing and Evaluation	6			1,800 U
101 1001015D	Technology Security Functions	6	434	1,525	2,441 U
	Defensewide Mission Support		289,966	181,021	193,973
	Total Office of Secretary/Defense		1,076,328	1,032,460	1,054,715

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Defense Advanced Research Projects Agency  
FY 1991 R D T & E Program

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Program Line Element No Number	Item Nomenclature	Act	Thousands of Dollars		
			FY 1989	FY 1990	FY 1991 C
1	0601101E Defense Research Sciences	1	88,603	78,150	85,238 U
5	0602101E Technical Studies	1	1,800		U
8	0602301E Strategic Technology	1	343,461	233,863	207,749 U
9	0602702E Tactical Technology	1	154,105	120,616	121,535 U
10	0602707E Particle Beam Technology	1	14,000	14,000	14,500 U
11	0602708E Integrated Command and Control Technology	1	32,953	52,900	37,553 U
12	0602712E Materials and Electronics Technology	1	37,344	56,320	43,096 U
13	0602714E Nuclear Monitoring	1	35,824	35,042	36,626 U
	Technology Base		708,090	590,891	546,297
22	0603226E Experimental Evaluation of Major Innovative Technologies	2	232,556	188,950	179,397 U
23	0603227E Relocatable Target Detection Technology Program	2	12,266	19,000	22,702 U
24	0603569E Advanced Submarine Technology	2	92,634	95,000	U
26	0603706E Microwave/Millimeter Wave Monolithic Integrated Circuits (MIMIC)	2	65,827	78,185	86,657 U
27	0603707E Prototyping of Advanced Technologies and Innovative Concepts	2	100,000	100,000	64,242 U
31	0603739E Semiconductor Manufacturing Technology	2	35,756	32,426	100,000 U
33	0603756E Consolidated DoD Software Initiative	2	8,640	19,010	34,572 U
35	0702807E Infrared Focal Plane Array	2			20,676 U
	Advanced Technology Development		547,679	613,625	508,246
87	0605114E BLACK LIGHT	6	3,600	6,000	6,000 U

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Defense Advanced Research Projects Agency  
 FY 1991 R D T & E Program

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Thousands of Dollars

Line No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C	U
91	0605502E	Small Business Innovative Research	6	13,680			
99	0605898E	Management Headquarters (Research and Development)	6	16,043	16,506		17,778
		Defensewide Mission Support		33,323	22,506		23,778
		Total Defense Advanced Research Projects Agency		1,289,092	1,227,022		1,078,321

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National Security Agency  
FY 1991 R D T & E Program

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Date: 29 Jan 1990

Line No	Program Element Number	Item Nomenclature	Act ---	FY 1989 ---	FY 1990 ---	FY 1991 c ---	Thousands of Dollars -----S e
61	0301011G	Cryptologic Activities	5				U
65	0303401G	Communications Security (COMSEC)	5				U
69	0305159G	Defense Reconnaissance Support Activities	5				U
71	0305167G	Computer Security	5				U
73	0305885G	Tactical Cryptologic Activities	5				U
		Intelligence and Communications					U
Total		National Security Agency					U

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Defense Nuclear Agency  
 FY 1991 R D T & E Program

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Line No	Program Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C
7	0602109H	Super Conductive Magnetic Energy Storage	1	11,000	15,000	U
14	0602715H	Defense Nuclear Agency	1	329,532	326,849	355,066
		Technology Base		329,532	337,949	370,066
39	0603711H	Verification Technology Demonstration	3	19,000	76,000	U
		Strategic Programs		19,000	76,000	
<b>Total Defense Nuclear Agency</b>				<b>329,532</b>	<b>356,849</b>	<b>446,066</b>

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Defense Support Project Office  
 FY 1991 R D T & E Program

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Date: 29 Jan 1990

Appropriation: 0400 D Research Development Test & Eval Def Ag

Line Element No	Program	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 e
Thousands of Dollars						
67	03051541	Airborne Reconnaissance Support Program	5	100,561	87,000	179,900 U
70	03051591	Defense Reconnaissance Support Activities	5	36,794	36,247	45,821 U
Intelligence and Communications				137,355	123,247	225,721
Total Defense Support Project Office				137,355	123,247	225,721

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Joint Chiefs of Staff  
FY 1991 R D T & E Program

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Date: 29 Jan 1990

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Thousands of Dollars

Line Element No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
40	0603734J	Island Sun Support	3			84,624 U
		Strategic Programs				84,624
		Total Joint Chiefs of Staff				84,624

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Defense Communications Agency  
 FY 1991 R D T & E Program

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Appropriation: 0400 D Research Development Test & Eval Def Ag Date: 29 Jan 1990

Line Element No	Program	Item Nomenclature	Act	Thousands of Dollars		
				FY 1989	FY 1990	FY 1991 e
34	0305108K	Command and Control Research	2	2,408	2,486	U
		Advanced Technology Development				
41	0603734K	Island Sun	3	56,267	57,995	U
44	0302016K	National Military Command System-Wide Support	3	6,515	12,885	12,088 U
45	0302019K	WMMCCS Systems Engineer	3	17,226	16,674	16,952 U
46	0303131K	Minimum Essential Emergency Communications Network (MEECN)	3	9,717	7,990	8,240 U
47	0303154K	WMMCCS ADP Modernization	3	47,474	47,474	55,115 U
		Strategic Programs				
54	0201135K	CINC C2 Initiatives	4	719	1,913	1,974 U
55	0208045K	C3 Interoperability (Joint Tactical C3 Agency)	4	22,483	54,297	46,682 U
56	0208298K	Management Headquarters (Joint Tactical C3 Agency)	4	2,289	6,459	6,589 U
		Tactical Programs				
63	0303127K	Long-Haul Communications (DCS)	5	52,480	20,768	20,516 U
64	0303127K	Support of the National Communications System	5	12,196	3,763	3,426 U
		Intelligence and Communications				
		Total Defense Communications Agency		182,443	232,626	174,068

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Defense Intelligence Agency  
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Thousands of Dollars

Program Line Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c	
62	0301301L General Defense Intelligence Program	5				U
72	0305884L Intelligence Planning & Review Activities	5				U
	Intelligence and Communications					U
	Total Defense Intelligence Agency					U

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Defense Logistics Agency  
 FY 1991 R D T & E Program

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Line No	Program Element Number	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c	Thousands of Dollars
79	0604722S	Joint Service Education and Training Systems Development	6		5,000		U
93	0605711S	Critical Technology Analysis	6	23,850	3,019		U
94	0605801S	Defense Technical Information Center	6	21,581	23,308	26,241	U
95	0605802S	Information Analysis Centers	6	5,200	5,377	5,539	U
97	0605803S	R&D in Support of DoD Enlistment, Testing and Evaluation	6		1,800		U
100	0708011S	Industrial Preparedness	6	10,629	14,861	10,912	U
Defensewide Mission Support				61,260	53,365	42,692	
Total Defense Logistics Agency				61,260	53,365	42,692	

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Uniformed Services University (USUHS)  
FY 1991 R D T & E Program

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Date: 29 Jan 1990

Thousands of Dollars

Line Element No	Program Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 C
2	0601101W In-House Laboratory Independent Research	1	2,070	2,188	2,342 U
	Technology Base		2,070	2,188	2,342
	Total Uniformed Services University (USUHS)		2,070	2,188	2,342

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Special Operations Command  
FY 1991 R D T & E Program

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Date: 29 Jan 1990

Thousands of Dollars

Program Line Element No	Item Nomenclature	Act	FY 1989	FY 1990	FY 1991 c
37	114001188 Advanced Special Operations Research, Development and Acquisition	2			24,784 U
	Advanced Technology Development				24,784
58	111001188 Force Enhancements-Active	4			182,368 U
	Tactical Programs				182,368
	Total Special Operations Command				207,152

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