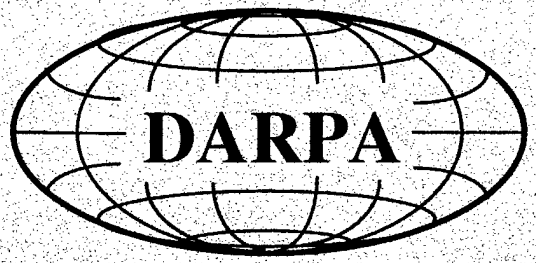
POM 2000 - 2005
DESCRIPTIVE SUMMARIES

May 22, 1998



Defense Advanced Research Projects Agency

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DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
POM 00-05 SUBMISSION

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DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
3701 NORTH FAIRFAX DRIVE
ARLINGTON, VA 22203-1714

MAY 21 1998

MEMORANDUM FOR THE SECRETARY OF DEFENSE

SUBJECT: POM 2000-05 Submission

Attached is the DARPA Program Objective Memorandum submission covering RDT&E requirements for FYs 2000-2005. This submission is focused on pursuing breakthrough technologies to satisfy warfighter needs, increase the affordability of future weapon systems, and demonstrate advanced systems concepts. The funding levels are consistent with the fiscal guidance.

DARPA has fully funded core contract support for the Software Engineering Institute (SEI) and proposes to transfer the FY 2000-05 SEI funding within PE 62301E to DDR&E.

for F. L. Fernandez
Director

Attachment

SECTION I

RESOURCE SUMMARIES
BA/PE TOA

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSEWIDE
PE/PROJECT LEVEL SUMMARY REPORT
($ in millions)

PE	PROJ	TITLE	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
61101E	CCS-02	INFORMATION SCIENCES	16.817	18.900	20.100	19.500	19.700	19.700	20.700	21.700
	ES-01	ELECTRONIC SCIENCES	37.210	28.511	22.910	30.583	30.433	36.183	37.183	38.183
	MS-01	MATERIALS SCIENCES	14.305	17.691	22.390	19.953	21.053	21.053	22.053	23.053
	61101E	**DEFENSE RESEARCH SCIENCES**	**68.332**	**65.102**	**65.400**	**70.036**	**71.186**	**76.936**	**79.936**	**82.936**
62110E	**NGI-01**	**NEXT GENERATION INTERNET**	**40.453**	**40.000**	**40.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
62301E	ST-01	JASONS	1.291	1.200	1.200	1.200	1.200	1.200	1.200	1.200
	ST-11	INTELLIGENT SYSTEMS & SOFTWARE	91.981	81.700	65.499	61.656	51.926	51.591	56.591	50.391
	ST-19	HIGH PERFORMANCE AND GLOBAL SCALE SYSTEMS	157.784	193.314	176.863	183.595	191.727	198.329	200.329	203.329
	ST-22	SOFTWARE ENGINEERING TECHNOLOGY	16.609	17.100	17.600	18.100	18.700	19.300	19.300	19.300
	ST-24	INFORMATION SURVIVABILITY	41.372	54.509	58.640	59.125	78.182	101.128	101.128	101.128
	ST-26	JOINT INFRASTRUCTURE PROTECTION	0.000	69.900	0.000	0.000	0.000	0.000	0.000	0.000
	62301E	**COMPUTING SYS & COMM TECHNOLOGY**	**309.037**	**417.723**	**319.802**	**323.676**	**341.735**	**371.548**	**378.548**	**375.348**
62383E	**BW-01**	**BIOLOGICAL WARFARE DEFENSE**	**60.805**	**88.000**	**92.500**	**98.000**	**101.000**	**105.800**	**106.800**	**107.800**
62702E	TT-03	NAVAL WARFARE TECHNOLOGY	20.783	16.796	11.553	14.172	27.172	27.172	27.172	27.172
	TT-04	ADVANCED LAND SYSTEMS TECHNOLOGY	20.817	35.000	45.750	46.686	55.686	60.886	60.886	60.886
	TT-05	ADVANCED TARGETING TECHNOLOGY	0.000	0.000	0.000	0.000	10.000	38.300	48.300	58.300
	TT-06	ADVANCED TACTICAL TECHNOLOGY	55.091	71.534	57.767	55.728	61.800	68.728	68.728	68.728
	TT-07	AERONAUTICS TECHNOLOGY	20.235	34.000	41.000	59.011	55.000	55.648	55.648	55.648
	TT-10	ADVANCED LOGISTICS TECHNOLOGY	21.214	21.665	10.633	10.000	20.000	20.000	20.000	20.000
	TT-11	JOINT LOGISTICS ACTD	10.191	10.000	10.000	10.000	10.000	0.000	0.000	0.000
	62702E	**TACTICAL TECHNOLOGY**	**148.331**	**188.995**	**176.703**	**195.597**	**239.658**	**270.734**	**280.734**	**290.734**
62708E	**IC-03**	**INTERGRATED COMMAND & CONTROL TECH**	**45.695**	**34.000**	**32.000**	**32.000**	**0.000**	**0.000**	**0.000**	**0.000**
62712E	MPT-01	MATERIALS PROCESSING TECHNOLOGY	122.081	145.381	156.066	196.327	190.280	170.227	175.227	185.227
	MPT-02	MICROELECTRONIC DEVICE TECHNOLOGIES	74.520	87.910	87.522	78.881	69.426	80.413	90.413	100.413
	MPT-06	CRYOGENIC ELECTRONICS	18.404	8.203	11.546	12.000	15.000	16.000	16.000	16.000
	MPT-07	MILITARY MEDICAL/TRAUMA CARE TECHNOLOGY	16.348	2.914	0.000	0.000	0.000	0.000	0.000	0.000
	62712E	**MATERIALS & ELECTRONICS TECHNOLOGY**	**231.353**	**244.408**	**255.134**	**287.208**	**274.706**	**266.640**	**281.640**	**301.640**

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSEWIDE
PE/PROJECT LEVEL SUMMARY REPORT
($ in millions)

PE	PROJ	TITLE	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
63285E	**ASP-01**	**ADVANCED AEROSPACE SYSTEMS**	**0.000**	**0.000**	**13.000**	**19.000**	**23.000**	**5.000**	**5.986**	**9.986**
63739E	MT-03	UNCOOLED INTEGRATED SENSORS	8.669	11.000	3.000	0.000	0.000	0.000	0.000	0.000
	MT-04	ELECTRONIC MODULE TECHNOLOGY	68.268	65.992	61.142	47.395	53.999	81.363	84.925	86.925
	MT-05	TACTICAL INFORMATION SYSTEMS	29.472	36.496	19.640	22.748	21.100	0.000	0.000	0.000
	MT-06	MICROWAVE & ANALOG FRONT END TECHNOLOGY	18.250	4.000	0.000	0.000	0.000	0.000	0.000	0.000
	MT-07	CENTERS OF EXCELLENCE	3.852	4.000	0.000	0.000	0.000	0.000	0.000	0.000
	MT-08	MANUFACTURING TECHNOLOGY APPLICATIONS	29.162	25.200	20.253	0.000	0.000	0.000	0.000	0.000
	MT-10	ADVANCED LITHOGRAPHY	51.078	26.500	28.000	24.000	27.500	24.754	24.754	24.754
	MT-12	MEMS	73.158	71.549	78.979	80.000	79.000	88.300	96.300	93.300
	MT-15	MIXED TECHNOLOGY INTEGRATION	0.000	0.000	36.000	71.205	53.510	50.000	50.000	50.000
	63739E	**ADVANCED ELECTRONICS TECHNOLOGY**	**281.909**	**244.737**	**247.014**	**245.348**	**235.109**	**244.417**	**255.979**	**254.979**
63746E	**MR-01**	**MARITIME TECHNOLOGY**	**36.030**	**15.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
63747E	**EV-01**	**ELECTRIC VEHICLES**	**14.522**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
63760E	CCC-01	COMMAND & CONTROL INFORMATION SYSTEMS	64.125	81.200	109.446	106.034	106.734	105.034	107.034	108.034
	CCC-02	INFORMATION INTEGRATION SYSTEMS	85.885	118.900	115.440	108.544	117.849	117.549	118.549	117.549
	63760E	**COMMAND, CONT'L & COMMUNICATION SYS**	**150.010**	**200.100**	**224.886**	**214.578**	**224.583**	**222.583**	**225.583**	**225.583**
63761E	CST-01	ADVANCED SIMULATION	30.142	26.698	0.000	0.000	0.000	0.000	0.000	0.000
	CST-02	GLOBAL GRID COMMUNICATIONS	41.302	27.916	13.450	0.000	0.000	0.000	0.000	0.000
	CST-03	DEFENSE SIMULATION INTERNET	2.768	1.500	0.000	0.000	0.000	0.000	0.000	0.000
	63761E	**COMMUNICATION & SIMULATION TECH**	**74.212**	**56.114**	**13.450**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
63762E	SGT-01	GUIDANCE TECHNOLOGY	36.668	36.872	16.766	22.731	22.633	35.764	36.764	39.764
	SGT-02	AEROSPACE SURVEILLANCE TECHNOLOGY	19.603	70.500	82.551	72.729	73.517	93.486	80.500	87.500
	SGT-03	AIR DEFENSE INITIATIVE	20.906	33.050	50.210	27.180	32.460	35.000	38.000	38.200
	SGT-04	SENSORS & EXPLOITATION SYSTEMS	90.007	72.732	81.670	91.253	99.476	92.832	92.832	92.832
	63762E	**SENSOR & GUIDANCE TECHNOLOGY**	**167.184**	**213.154**	**231.197**	**213.893**	**228.086**	**257.082**	**248.096**	**258.296**

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSEWIDE
PE/PROJECT LEVEL SUMMARY REPORT
($ in millions)

PE	PROJ	TITLE	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
63763E	**MRN-02**	**ADVANCED SHIP/SENSOR SYSTEM**	**19.626**	**24.788**	**36.998**	**43.464**	**48.396**	**58.696**	**60.696**	**63.696**
63764E	LNW-01	RAPID STRIKE FORCE TECHNOLOGY	42.315	52.600	38.000	30.000	50.000	22.000	22.000	22.000
	LNW-02	SMALL UNIT OPERATIONS	38.609	55.890	55.413	59.700	51.500	65.000	65.000	65.000
	63764E	**LAND WARFARE TECHNOLOGY**	**80.924**	**108.490**	**93.413**	**89.700**	**101.500**	**87.000**	**87.000**	**87.000**
63765E	**CLP-01**	**CLASSIFIED DARPA PROGRAMS**	**129.411**	**55.500**	**49.500**	**36.876**	**37.000**	**0.000**	**0.000**	**0.000**
63800E	**JA-01**	**JOINT STRIKE FIGHTER PROGRAM**	**23.019**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
63805E	**GC-01**	**DUAL USE APPLICATIONS PROGRAM**	**120.395**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
65114E	**BL-01**	**BLACKLITE**	**4.532**	**5.000**	**5.000**	**5.000**	**5.000**	**5.000**	**5.000**	**5.000**
65898E	**MH-01**	**MANAGEMENT HEADQUARTERS**	**35.039**	**38.611**	**40.603**	**42.024**	**43.541**	**45.164**	**46.602**	**46.602**
	AGENCY TOTAL		**2,040.819**	**2,039.722**	**1,936.600**	**1,916.400**	**1,974.500**	**2,016.600**	**2,062.600**	**2,109.600**

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSEWIDE
PE/PROJECT LEVEL SUMMARY REPORT
($ in millions)

PE	PROJ	TITLE	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
	BA-01	TOTAL	68.332	65.102	65.400	70.036	71.186	76.936	79.936	82.936
	BA-02	TOTAL	835.674	1,013.126	916.139	936.481	957.099	1,014.722	1,047.722	1,075.522
	BA-03	TOTAL	1,097.242	917.883	909.458	862.859	897.674	874.778	883.340	899.540
	BA-06	TOTAL	39.571	43.611	45.603	47.024	48.541	50.164	51.602	51.602
	AGENCY TOTAL		2,040.819	2,039.722	1,936.600	1,916.400	1,974.500	2,016.600	2,062.600	2,109.600

SECTION II

FORCE STRUCTURE

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY 1998 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	208
22 General Research & Development	0	0	0	0	0	0	0	208
223 RDT&E Management & Support	0	0	0	0	0	0	0	208
TOTAL END STRENGTH	0	0	0	0	0	0	0	208

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY 1999 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	207
22 General Research & Development	0	0	0	0	0	0	0	207
223 RDT&E Management & Support	0	0	0	0	0	0	0	207
TOTAL END STRENGTH	0	0	0	0	0	0	0	207

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY2000 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	201
22 General Research & Development	0	0	0	0	0	0	0	201
223 RDT&E Management & Support	0	0	0	0	0	0	0	201
TOTAL END STRENGTH	0	0	0	0	0	0	0	201

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY2001 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	197
22 General Research & Development	0	0	0	0	0	0	0	197
223 RDT&E Management & Support	0	0	0	0	0	0	0	197
TOTAL END STRENGTH	0	0	0	0	0	0	0	197

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY2002 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	197
22 General Research & Development	0	0	0	0	0	0	0	197
223 RDT&E Management & Support	0	0	0	0	0	0	0	197
TOTAL END STRENGTH	0	0	0	0	0	0	0	197

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY 2003 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	197
22 General Research & Development	0	0	0	0	0	0	0	197
223 RDT&E Management & Support	0	0	0	0	0	0	0	197
TOTAL END STRENGTH	0	0	0	0	0	0	0	197

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY 2004 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	197
22 General Research & Development	0	0	0	0	0	0	0	197
223 RDT&E Management & Support	0	0	0	0	0	0	0	197
TOTAL END STRENGTH	0	0	0	0	0	0	0	197

Format A-8: Programmed Structure, Programmed Manning, and End Strength

Defense Advanced Research Projects Agency

FY 2005 (Quantities in 000's)

DMC	ACTIVE		RESERVE		NATIONAL GUARD		CIVILIAN	
	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning	Programmed Manpower Structure	Authorized Manning
2 DEFENSE-WIDE MISSIONS	0	0	0	0	0	0	0	197
22 General Research & Development	0	0	0	0	0	0	0	197
223 RDT&E Management & Support	0	0	0	0	0	0	0	197
TOTAL END STRENGTH	0	0	0	0	0	0	0	197

SECTION III

MODERNIZATION AND INVESTMENT

Format C-7: Industrial Base Program Funding

(Current $ Millions)

Defense Advanced Research Projects Agency

	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
1. Preserving Industrial Capabilities									
Program Element									
R, D, T and E-Defense Agencies									
0603739E	60.8	51.1	26.5	28	24	27.5	24.8	24.8	24.8
0603746E	47.3	36	15	0	0	0	0	0	0
0603747E	14.7	14.5	0	0	0	0	0	0	0
0603805E	123.2	120.4	0	0	0	0	0	0	0

(U,C,S) Format C-11: Defense Technology Objectives (DTOs)

Program Funding
(Then Year Dollars in Millions and Tenths)

FY05	(f) Technology Area	(g) DTO #	(h) DTO Title	(i) Program Element #	(j) Program Element Title	(k) Project#	(l) Project Title	(m) FY00	(n) FY01	(o) FY02	(p) FY03	(q) FY04	(r) FY05
	Joint Readiness & Logistics	19	JLACTD	0602702E	Tactical Technology	TT-11							
(a) DTO Funding as of February 1998								10.0	10.0	10.0	10.0	0	0
(b) DTO Funding in POM 00-05 submit								10.0	10.0	10.0	0	0	0
(c) Funding Variance								0	0	0	(10)	0	0
(d) Percent Variance											100%		
(e) Reason for Variance	This variance is a result of DARPA's decision to fully transition this ACTD one year earlier than planned.												

SECTION IV

INSTALLATION CONSTRUCTION, BASE OPERATING SUPPORT, AND ENVIRONMENT

Format E-10: Environmental Security Technology

(Current $ Millions)

Defense Advanced Research Projects Agency

Program Element: 0602712E - Materials and Electronics Technology

Project: MPT-01 Materials Processing Technology

	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Pollution Prevention									
Research									
Exploratory Development	9.736	3.244	2.524	0.345	0	0	0	0	0
Subtotal	9.736	3.244	2.524	0.345	0	0	0	0	0
Project Total	9.736	3.244	2.524	0.345	0	0	0	0	0
PE Total	9.736	3.244	2.524	0.345	0	0	0	0	0
Grand Total	9.736	3.244	2.524	0.345	0	0	0	0	0

SECTION V

MANPOWER

Format F-10: Civilian Employment Levels and Associated Payroll Costs

(Current $ Thousands, End Strength, Workyears)

Defense Advanced Research Projects Agency

	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Direct Hire (Civilian Workyears)									
US Citizens									
Numbers		208	207	201	197	197	197	197	197
Cost		23532	25218	25803	26706	27641	28608	29610	29610
Total Direct Hire									
Number	0	208	207	201	197	197	197	197	197
Cost	0	23532	25218	25803	26706	27641	28608	29610	29610
Total Civilian Workyears (excluding reimbursables)									
Number	0	208	207	201	197	197	197	197	197
Cost	0	23532	25218	25803	26706	27641	28608	29610	29610
Total Civilian Endstrength		215	214	208	204	204	204	204	204
Other Costs		175	0	0	0	0	0	0	0
Total Costs	0	23707	25218	25803	26706	27641	28608	29610	29610

SECTION VI

INFORMATION TECHNOLOGY (IT) / DEFENSE INFORMATION INFRASTRUCTURE (DII)

Format G-1: ITR/DII Resources / Functional AIS (Detail)

Functional Area AIS

Defense Advanced Research Projects Agency

Science and Technology

Defense Advanced Research Projects Agency

Functional AIS Name: AGGREGATE
Migration Status Category: Existing AISs
AIS Number: 9999

DIST #: a1570001
National Security System Status N

DoD Mission #: 7
System Categorization: N2

IT Strategic Plan Goal #.Objective #: 2

Special Interest Item: None
JTA: Compliant as designed or currently operating

COE Compliance: 5 A

Current $ Millions

Resource Baseline	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Development and Modernization									
R, D, T and E-Defense Agencies	7.385	7.646	7.816	7.816	7.816	7.816	7.816	7.816	7.816
TOTAL	7.385	7.646	7.816	7.816	7.816	7.816	7.816	7.816	7.816
Current Services									
R, D, T and E-Defense Agencies	4.1	4.119	4.212	4.212	4.212	4.212	4.212	4.212	4.212
TOTAL	4.1	4.119	4.212	4.212	4.212	4.212	4.212	4.212	4.212
TOTAL RESOURCES (Dollars)	11.485	11.765	12.028	12.028	12.028	12.028	12.028	12.028	12.028

Format G-1: ITR/DII Resources / Functional AIS (Detail)

Defense Advanced Research Projects Agency

COMMENTS:

DEPARTMENT OF DEFENSE
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY (DARPA)
TAB G
EXECUTIVE SUMMARY

1. Information Technology Support to the DARPA Mission

Information technology (IT) activities provide direct support to a total agency staff of over two hundred personnel engaged in making research investments in new technologies considered to be critical to the nation's defense. IT support of this mission is provided for the functions of office automation and decision support. These functions accomplish four IT goals: (1) to provide products for externally required reporting (e.g., Defense budget input); (2) to support internal management processes (e.g., research investment strategy decisions); (3) to provide an in-house base for various information system research prototypes, and (4) to provide an efficient and effective work environment. These goals are supported by a desktop automation system composed of three inter-linked areas: Desktop Tools, Central Data, and Network Communications. Desktop Tools provides applications such as word processing, spreadsheets, and presentation graphics. Central Data provides financial data through various access paths, including an executive information system. Central Data also provides other local information to support administrative processes such as: the handling of DARPA funding documents prior to entering the Defense Finance and Accounting System; National Science Foundation and external reporting requirements; internal management requirements; and internal management controls. Network Communications provides productivity products such as electronic mail, centralized calendaring and management of meetings, and on-line access to policy, forms, and historic data. Network Communications further provides both the linking of internal systems and access to external communications such as the Internet and the Defense Data Network.

2. Initiatives: (1) Year 2000 initiatives are on schedule for September, 1998 implementation, without impact on the Agency IT budget. (2) New IT budgeting procedures are being implemented allowing identification of items previously imbedded in non-IT categories. (3) Other FY 1998 and FY 1999 initiatives are the rapid replacement of outmoded equipment and software, and the increased use of the World Wide Web.

3. Changes: This Tab G submission reflects total resource increases of 18.0% for FY 1997, 17.5% for FY 1998, and 16.6% for FY 1999 and beyond. These increases are due to (1) replacement of internal decision support and business process software, (2) increased costs of evolving to a cross-platform architecture, and (3) increased levels of user support.

Format G-2: DII Resources (Summary)

Functional Area AIS

Defense Advanced Research Projects Agency

Functional AIS Summary: Total

Current $ Millions

Resource Baseline	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Development and Modernization									
R, D, T and E-Defense Agencies	7.385	7.646	7.816	7.816	7.816	7.816	7.816	7.816	7.816
TOTAL	7.385	7.646	7.816	7.816	7.816	7.816	7.816	7.816	7.816
Current Services									
R, D, T and E-Defense Agencies	4.1	4.119	4.212	4.212	4.212	4.212	4.212	4.212	4.212
TOTAL	4.1	4.119	4.212	4.212	4.212	4.212	4.212	4.212	4.212
TOTAL RESOURCES (Dollars)	11.485	11.765	12.028	12.028	12.028	12.028	12.028	12.028	12.028

Format G-2: DII Resources (Summary)

Functional Area AIS

Defense Advanced Research Projects Agency

Functional AIS Summary: Science and Technology

Current $ Millions

Resource Baseline	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Development and Modernization									
R, D, T and E-Defense Agencies	7.385	7.646	7.816	7.816	7.816	7.816	7.816	7.816	7.816
TOTAL	7.385	7.646	7.816	7.816	7.816	7.816	7.816	7.816	7.816
Current Services									
R, D, T and E-Defense Agencies	4.1	4.119	4.212	4.212	4.212	4.212	4.212	4.212	4.212
TOTAL	4.1	4.119	4.212	4.212	4.212	4.212	4.212	4.212	4.212
TOTAL RESOURCES (Dollars)	11.485	11.765	12.028	12.028	12.028	12.028	12.028	12.028	12.028

SECTION VII

DARPA PERFORMANCE CONTRACT

DARPA PERFORMANCE CONTRACT

5/18/98

1 Introduction

1.1 Preamble

This contract is between the Defense Management Council (DMC) and the Defense Advanced Research Projects Agency (DARPA). Its purpose is to articulate expectations for DARPA's performance in FY 2000. Nothing in this contract is intended to alter the basic mission, operations, authority, or reporting chain of DARPA. The Under Secretary of Defense, Acquisition (USD(A&T)), as the principal staff assistant (PSA) for DARPA, is the agent of the Deputy Secretary of Defense responsible for implementation of the contract and for all direction associated with its implementation. The PSA is responsible for all direction stemming from DMC reviews of the agency's performance against the contract targets.

1.2 Product lines and customers

1.2.1 Mission

DARPA's primary responsibility is to help maintain U.S. technological superiority and guard against unforeseen technological advances by potential adversaries. Consequently, the DARPA mission is to develop imaginative, innovative and often high risk research ideas offering a significant technological impact that will go well beyond the normal evolutionary developmental approaches; and, to pursue these ideas from the demonstration of technical feasibility through the development of prototype systems.

1.2.2 DARPA's organization

DARPA focuses on the future and reaches out beyond the traditional Federal laboratory structure to deal directly with the nation's industrial and academic communities. In this sense DARPA plays a special role in DOD's research and development investment strategy by acting in large measure as a venture capitalist, but measuring return on investment in terms of products and processes rather than in dollars.

1.2.3 Critical processes

Greater than 90% of DARPA's fiscal resources are issued to develop technology. Thus long-term, far-reaching, and high risk/high payoff technology and systems development for future military systems is the core of DARPA's mission. Unfortunately, it is exactly these attributes that hamper establishment of performance metrics which, to be useful, must be measurable, relevant, and timely. A review of research organizations in the U.S. government, foreign governments and industry demonstrated that there is no currently accepted mechanism for directly measuring the relevance of a technology that will not be mature for ten or more years in the future.

However, there are three critical processes that occur annually that, if performed properly, would provide reasonable expectation of the development of valuable technologies. These are as follows:

- **Project selection**. In some ways, DARPA acts as a DoD venture capitalist for R&D. As with venture capitalists, it not possible to know whether a particular project will be successful. However, the strategy and processes used to select which technologies to invest in should be clearly understood and can be assessed since ultimate program success is unlikely without a competent means of project selection.
- **Program management**. DARPA appears currently to be an efficient organization in terms of how much internal overhead is associated with its funding of R&D. However, there are activities worth understanding both to manage DARPA and to benchmark with other organizations. Ongoing management activities, such as personnel management to ensure a quality workforce, are also included here.
- **Technology transition.** The ultimate success of DARPA's work is when a technology is successfully used in support of DoD objectives. Assessment of this important function should recognize that technology transition may not be completely within DARPA's power to effect. For example, funding constraints on the part of a potential user may temporarily preclude transition of an otherwise promising technology. Some activities, however, are within DARPA's power such as ensuring that DARPA's projects are consistent with overall S&T objectives or encouraging customer participation.

In the next section, the critical factors for success for each of these processes will be identified along with measures of success.

2 Business area performance standards

2.1 Project selection process

2.1.1 Critical factors for success

In the performance of its mission, DARPA has two distinct types of technology development. The first of these is to stay abreast of emerging technologies and develop those with potential DoD applications. The second is to respond to needs for technological capabilities defined by the DoD. DARPA's ability, therefore, to identify both emerging technologies and emerging needs are key to its success. Given fiscal constraints, DARPA must also have a strategy for balancing its overall investment between these fundamentally different activities. These fiscal constraints also mandate consideration of whether or not commercial research will provide similar capabilities to military investment.

2.1.2 Means and measures

Annual report review

DARPA shall, by January 31 of each year, provide an annual report to the USD (A&T). This report shall be distributed by the USD (A&T), if desired, for both a technical and operational review by subject matter experts. The overall purpose of this report is to describe and justify DARPA's broad strategy in selecting its portfolio of technology projects and to describe the long-range plans for transitioning technically successful projects to potential users. This report shall consider the following content:

1) Quantitative information as to:
   a) Percentage of dollars invested in ATD-like and ACTD-like projects;
   b) Percentage of dollars invested in new starts/seedlings;
   c) Percentage of total project turnover;
   d) Percentage of long-term, high risk/high reward projects;
   e) Percentage of technology investments versus systems development projects;
   f) Relevance to the Warfighter – projects that relate to a future DoD need;
   g) Direct collaborations with the service's S&T establishment (e.g. MOUs); and
   h) The number of projects concluded along with the percentages considered to be a technological success.

2) A description of the strategy and assumptions underpinning DARPA's apportionment of resources between "technology push" and "requirement pull" technology areas.

3) A description of the strategy and assumptions underpinning DARPA's apportionment of resources between the major technology areas. This shall include identification of those areas where the risk of technological surprise is considered the greatest and those user-defined needs considered to be most soluble by DARPA efforts.

4) Identification of the projects that concluded within the last three years that has transitioned successfully. This should also include a description of the military applications identified for these projects.

2.2 Program management process

2.2.1 Critical factors for success

The key factors for success are minimizing overhead cost, minimizing response time, and maintaining world class personnel.

2.2.2 Means and measures

Overhead reduction
Reduce Agency management headcount by 2 percent by end of year FY 2000.

Problem disbursements
Reduce problem disbursements by eliminating all unmatched disbursement and negative unliquidated obligation balances greater than 180 days old by the end of FY 2000.

Internal paperless funding process
Introduce an internal paperless funding process by replacing 50% of paper-based follow-on incremental funding actions with electronic packages by the end of FY 2000. In addition, demonstrate a prototype paperless contracting system by the end of FY 2000. For both initiatives develop metrics to assess benefits in terms of reduced overhead and shortened cycle time.

Innovative acquisition practices
Increase DARPA involvement or participation in innovative acquisition practices (such as, Other Transactions) by 5% over the FY 1999 level. Develop metrics to assess benefits in terms of reduced overhead and shortened cycle time.

Personnel
Measure the percentage of technical personnel turnover and develop metrics to measure the quality of personnel hired at DARPA.

2.3 Technology transition process

2.3.1 Critical factors for success

Although technology transition is not entirely within DARPA's capabilities to effect, increasing the amount of outside organization participation and maintaining consistency with the DoD S&T plan are believed to be key factors in encouraging technology transition where possible.

2.3.2 Means and measures

Memorandums of Understanding (MOUs)
Measure the number of MOUs with the military departments for the development of new technologies.