

TITLE IV

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

Funds appropriated under this title provide the resources required to conduct a program of research, development, test and evaluation, including research in basic science, applied research, advanced technology development, demonstration and validation, engineering and manufacturing development, and operational systems development.

The President's fiscal year 2011 budget requests a total of \$76,130,700,000 for research, development, test and evaluation appropriations.

SUMMARY OF COMMITTEE ACTION

The Committee recommends research, development, test and evaluation appropriations totaling \$76,193,695,000 for fiscal year 2011. This is \$62,995,000 above the budget estimate.

Committee recommended research, development, test and evaluation appropriations for fiscal year 2011 are summarized below:

SUMMARY OF RESEARCH, DEVELOPMENT, TEST AND EVALUATION APPROPRIATIONS

[In thousands of dollars]

Account	2011 budget estimate	Committee recommendation	Change from budget estimate
Research, Development, Test and Evaluation:			
Research, Development, Test and Evaluation, Army	10,333,392	10,513,704	+ 180,312
Research, Development, Test and Evaluation, Navy	17,693,496	17,693,981	+ 485
Research, Development, Test and Evaluation, Air Force	27,247,302	26,761,621	- 485,681
Research, Development, Test and Evaluation, Defense-Wide	20,661,600	21,029,479	+ 367,879
Operational Test and Evaluation, Defense	194,910	194,910	.....
Total	76,130,700	76,193,695	+ 62,995

COMMITTEE RECOMMENDATIONS

The Committee has displayed recommended adjustments in tables presented under each appropriation account.

These adjustments reflect the following Committee actions: elimination of funds requested for programs which are lower priority, duplicative, or not supported by firm requirements in out-year development or procurement appropriations; deletion of excess funds based on program delays or slow execution; addition of funds to reflect congressional priorities and to rectify shortfalls in the budget estimate; and implementation of recommendations in S. 3454, the National Defense Authorization Act for Fiscal Year 2011 as reported.

The Committee directs that the funding increases outlined in these tables shall be provided only for the specific purposes indicated in the table.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION OVERVIEW

Joint Light Tactical Vehicle.—The budget request includes a total of \$84,687,000 for development of the Joint Light Tactical Vehicle. In previous years, the Committee has stated its concern about the slow rate at which the program has expended the funds that have been appropriated to it. While some improvements have been made in this regard, the rate of obligation and expenditure remains an ongoing concern.

The Joint Light Tactical Vehicle is scheduled to award two competitive engineering and manufacturing development contracts in September 2011. The Committee believes funding for these contracts is more appropriately considered in the fiscal year 2012 budget request. Therefore, the recommendation includes a decrease of \$16,302,000 in the Marine Corps request and a decrease of \$15,175,000 in the Army request, which continues to provide the resources needed to complete the on-going technology development efforts.

Joint Strike Fighter.—The budget request includes \$2,477,041,000 number for development and test of the F-35 Joint Strike Fighter. As a result of the schedule delays and cost increases in the program, the Department of Defense has conducted exhaustive reviews of the program, culminating in a restructuring of the program in February 2010 and a Nunn-McCurdy certification in June 2010. The Committee is encouraged by the addition of aircraft into the flight test program, the revisions to the test schedule, and new fee structures to incentivize contractor performance.

However, the Committee is circumspect on the ability of the Department to complete the revised test program on schedule. Just months after the program restructure, the Under Secretary of Defense (Acquisition, Technology, and Logistics) notified the congressional defense committees on June 1, 2010, that the “JSF test program continues to encounter difficulties and has fallen behind the level of performance projected” by the Joint Estimating Team II.

Between February and June of this year, for example, the estimated ferry date—the time at which an aircraft becomes available for Government testing—has been delayed for 8 out of 14 test aircraft by as much as 2 months. In addition, the Marine Corps’ short take-off and landing variant has not met the scheduled ramp-up of flight testing due to maintenance and other issues. Due to the under-execution of test flights, the Committee recommends a reduction of \$50,000,000 to the Research, Development, Test and Evaluation, Navy account.

The Department has also requested a total of \$115,724,000 for development of Block 4 software. This software is intended to have enhancements beyond the Block 3 build, which will be installed on all operational aircraft after completion of the developmental test program in fiscal year 2014. In light of the considerable risk remaining in the test schedule, the Committee recommendation de-

fers all funds requested for initiating development of Block 4 software.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY

Appropriations, 2010 \$11,474,180,000
 Budget estimate, 2011 10,333,392,000
 Committee recommendation 10,513,704,000

The Committee recommends an appropriation of \$10,513,704,000. This is \$180,312,000 above the budget estimate.

COMMITTEE RECOMMENDED PROGRAM

The following table summarizes the budget estimate for this appropriation, the Committee recommendation, and the Committee recommended adjustments to the budget estimate:

(In thousands of dollars)

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY			
	BASIC RESEARCH			
1	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	21,780	21,780	.....
2	DEFENSE RESEARCH SCIENCES	195,845	219,145	+ 23,300
3	UNIVERSITY RESEARCH INITIATIVES	91,161	106,461	+ 15,300
4	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	98,087	123,387	+ 25,300
	TOTAL, BASIC RESEARCH	406,873	470,773	+ 63,900
	APPLIED RESEARCH			
5	MATERIALS TECHNOLOGY	29,882	91,882	+ 62,000
6	SENSORS AND ELECTRONIC SURVIVABILITY	48,929	54,929	+ 6,000
7	TRACTOR HIP	14,624	14,624	.....
8	AVIATION TECHNOLOGY	43,476	50,876	+ 7,400
9	ELECTRONIC WARFARE TECHNOLOGY	17,330	21,830	+ 4,500
10	MISSILE TECHNOLOGY	49,525	52,025	+ 2,500
11	ADVANCED WEAPONS TECHNOLOGY	18,190	18,190	.....
12	ADVANCED CONCEPTS AND SIMULATION	20,582	26,582	+ 6,000
13	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	64,740	90,240	+ 25,500
14	BALLISTICS TECHNOLOGY	60,342	67,342	+ 7,000
15	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY ...	5,324	15,324	+ 10,000
16	JOINT SERVICE SMALL ARMS PROGRAM	7,893	7,893	.....
17	WEAPONS AND MUNITIONS TECHNOLOGY	42,645	87,245	+ 44,600
18	ELECTRONICS AND ELECTRONIC DEVICES	60,859	111,959	+ 51,100
19	NIGHT VISION TECHNOLOGY	40,228	41,728	+ 1,500
20	COUNTERMINE SYSTEMS	19,118	29,118	+ 10,000
21	HUMAN FACTORS ENGINEERING TECHNOLOGY	21,042	21,042	.....
22	ENVIRONMENTAL QUALITY TECHNOLOGY	18,364	20,364	+ 2,000
23	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	25,573	25,573	.....
24	COMPUTER AND SOFTWARE TECHNOLOGY	6,768	6,768	.....
25	MILITARY ENGINEERING TECHNOLOGY	79,189	80,334	+ 1,145
26	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	22,198	22,198	.....
27	WARFIGHTER TECHNOLOGY	27,746	36,746	+ 9,000
28	MEDICAL TECHNOLOGY	96,797	168,555	+ 71,758
	TOTAL, APPLIED RESEARCH	841,364	1,163,367	+ 322,003
	ADVANCED TECHNOLOGY DEVELOPMENT			
29	WARFIGHTER ADVANCED TECHNOLOGY	37,364	46,664	+ 9,300
30	MEDICAL ADVANCED TECHNOLOGY	71,510	158,310	+ 86,800
31	AVIATION ADVANCED TECHNOLOGY	57,454	88,054	+ 30,600
32	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	64,438	100,838	+ 36,400
33	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY ...	89,499	197,699	+ 108,200
34	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	8,102	17,302	+ 9,200

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
35	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	7,921	7,921	.....
36	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	50,359	51,859	+ 1,500
37	TRACTOR HIKE	8,015	8,015	.....
38	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	15,334	16,334	+ 1,000
39	TRACTOR ROSE	12,309	12,309	.....
40	EXPLOSIVES DEMILITARIZATION TECHNOLOGY .....	.....	.....	.....
41	MILITARY HIV RESEARCH	6,688	6,688	.....
42	COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT	10,550	10,550	.....
43	ELECTRONIC WARFARE TECHNOLOGY	18,350	21,350	+ 3,000
44	MISSILE AND ROCKET ADVANCED TECHNOLOGY	84,553	92,753	+ 8,200
45	TRACTOR CAGE	9,986	9,986	.....
46	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	26,953	31,953	+ 5,000
47	JOINT SERVICE SMALL ARMS PROGRAM	9,151	9,151	.....
48	NIGHT VISION ADVANCED TECHNOLOGY	39,912	58,512	+ 18,600
49	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	15,878	16,878	+ 1,000
50	MILITARY ENGINEERING ADVANCED TECHNOLOGY	27,393	49,793	+ 22,400
51	ADVANCED TACTICAL COMPUTER SCIENCE & SENSOR TECHNOLOGY	24,873	26,373	+ 1,500
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	696,592	1,039,292	+ 342,700
	DEMONSTRATION & VALIDATION			
52	UNIQUE ITEM IDENTIFICATION [UID] .....	.....	.....	.....
53	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	11,455	53,755	+ 42,300
54	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (SPACE)	27,551	47,151	+ 19,600
55	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING .....	.....	.....	.....
56	LANDMINE WARFARE AND BARRIER—ADV DEV	15,596	15,596	.....
57	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	2,425	2,425	.....
58	TANK AND MEDIUM CALIBER AMMUNITION	42,183	27,183	- 15,000
59	ADVANCED TANK ARMAMENT SYSTEM [ATAS]	136,302	207,702	+ 71,400
60	SOLDIER SUPPORT AND SURVIVABILITY	18,556	8,239	- 10,317
61	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM—AD	17,962	12,162	- 5,800
62	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT .....	.....	5,159	+ 5,159
63	ENVIRONMENTAL QUALITY TECHNOLOGY	4,695	7,695	+ 3,000
64	WARFIGHTER INFORMATION NETWORK—TACTICAL	190,903	190,903	.....
65	NATO RESEARCH AND DEVELOPMENT	5,060	5,060	.....
66	AVIATION—ADV DEV	8,355	8,355	.....
67	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV	80,490	67,315	- 13,175
68	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION	14,290	14,290	.....
69	MEDICAL SYSTEMS—ADV DEV	28,132	30,132	+ 2,000
70	SOLDIER SYSTEMS—ADVANCED DEVELOPMENT	48,323	66,923	+ 18,600
71	INTEGRATED BROADCAST SERVICE	970	970	.....
72	ENDURANCE UAVS	93,000	93,000	.....
	TOTAL, DEMONSTRATION & VALIDATION	746,248	864,015	+ 117,767
	ENGINEERING & MANUFACTURING DEVELOPMENT			
73	AIRCRAFT AVIONICS	89,210	74,210	- 15,000
74	ARMED, DEPLOYABLE OH-58D	72,550	72,550	.....
75	ELECTRONIC WARFARE DEVELOPMENT	172,269	153,755	- 18,514
76	JOINT TACTICAL RADIO	784	784	.....
77	ALL SOURCE ANALYSIS SYSTEM	22,574	18,074	- 4,500
78	TRACTOR CAGE	23,194	23,194	.....
79	INFANTRY SUPPORT WEAPONS	80,337	68,337	- 12,000
80	MEDIUM TACTICAL VEHICLES	3,710	3,710	.....
81	SMOKE, OBSCURANT AND TARGET DEFEATING SYSTEM—SDD	5,335	5,335	.....
82	JAVELIN	9,999	.....	- 9,999
83	FAMILY OF HEAVY TACTICAL VEHICLES	3,519	15,519	+ 12,000
84	AIR TRAFFIC CONTROL	9,892	9,892	.....
85	LIGHT TACTICAL WHEELED VEHICLES	1,990	1,990	.....
86	NON-LIGHT OF SIGHT LAUNCH SYSTEM	81,247	.....	- 81,247
87	NON-LINE OF SIGHT CANNON .....	.....	.....	.....
88	FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE .....	.....	.....	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
89	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	568,711	568,711	.....
90	FCS RECONNAISSANCE [UAV] PLATFORMS	50,304	50,304	.....
91	FCS UNMANNED GROUND VEHICLES	249,948	249,948	.....
92	FCS UNATTENDED GROUND SENSORS	7,515	7,515	.....
93	FCS SUSTAINMENT & TRAINING R&D	610,389	610,389	.....
94	SPIN OUT TECHNOLOGY/CAPABILITY .....	.....	.....	.....
95	NIGHT VISION SYSTEMS—SDD	52,549	52,549	.....
96	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,118	2,118	.....
97	NON-SYSTEM TRAINING DEVICES—SDD	27,756	27,756	.....
98	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—SDD	34,209	34,209	.....
99	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	30,291	30,291	.....
100	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	14,041	14,041	.....
101	DISTRIBUTIVE INTERACTIVE SIMULATIONS [DIS]—SDD	15,547	15,547	.....
102	POSITIONING SYSTEMS DEVELOPMENT (SPACE) .....	.....	.....	.....
103	COMBINED ARMS TACTICAL TRAINER [CATT] CORE	27,670	27,670	.....
104	JOINT NETWORK MANAGEMENT SYSTEM .....	.....	.....	.....
105	WEAPONS AND MUNITIONS—SDD	24,345	21,345	− 3,000
106	LOGISTICS AND ENGINEER EQUIPMENT—SDD	41,039	43,039	+ 2,000
107	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS—SDD	90,736	60,736	− 30,000
108	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT	34,474	38,974	+ 4,500
109	LANDMINE WARFARE/BARRIER—SDD	95,577	52,977	− 42,600
110	ARTILLERY MUNITIONS	26,371	26,371	.....
111	COMBAT IDENTIFICATION	29,884	3,000	− 26,884
112	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	60,970	60,970	.....
113	GENERAL FUND ENTERPRISE BUSINESS SYSTEM [GFEB]	13,576	13,576	.....
114	FIREFINDER	24,736	24,736	.....
115	SOLDIER SYSTEMS—WARRIOR DEM/VAL	20,886	20,886	.....
116	ARTILLERY SYSTEMS	53,624	83,624	+ 30,000
117	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM [CAP]	467,139	467,139	.....
118	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	7,276	7,276	.....
119	INFORMATION TECHNOLOGY DEVELOPMENT	23,957	23,957	.....
120	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM [AIMHRS]	100,500	60,500	− 40,000
121	JOINT AIR-TO-GROUND MISSILE [JAGM]	130,340	130,340	.....
122	SLAMRAAM	23,700	23,700	.....
123	PAC-2/MSE MISSILE	62,500	62,500	.....
124	ARMY INTEGRATED AIR AND MISSILE DEFENSE [AIAMD]	251,124	251,124	.....
125	MANNED GROUND VEHICLE	934,366	461,100	− 473,266
126	AERIAL COMMON SENSOR	211,500	211,500	.....
127	TROJAN—RH12	3,697	3,697	.....
128	ELECTRONIC WARFARE DEVELOPMENT	21,571	13,571	− 8,000
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	5,021,546	4,305,036	− 716,510
	RDT&E MANAGEMENT SUPPORT .....	.....	.....	.....
129	THREAT SIMULATOR DEVELOPMENT	26,158	33,958	+ 7,800
130	TARGET SYSTEMS DEVELOPMENT	8,614	8,614	.....
131	MAJOR T&E INVESTMENT	42,102	42,102	.....
132	RAND ARROYO CENTER	20,492	20,492	.....
133	ARMY KWAJALEIN ATOLL	163,788	163,788	.....
134	CONCEPTS EXPERIMENTATION PROGRAM	17,704	17,704	.....
136	ARMY TEST RANGES AND FACILITIES	393,937	434,537	+ 40,600
137	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	59,040	65,040	+ 6,000
138	SURVIVABILITY/LETHALITY ANALYSIS	41,812	41,812	.....
139	DOD HIGH ENERGY LASER TEST FACILITY	4,710	9,710	+ 5,000
140	AIRCRAFT CERTIFICATION	5,055	5,055	.....
141	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	7,185	7,185	.....
142	MATERIEL SYSTEMS ANALYSIS	18,078	21,878	+ 3,800
143	EXPLOITATION OF FOREIGN ITEMS	5,460	5,460	.....
144	SUPPORT OF OPERATIONAL TESTING	68,191	68,191	.....
145	ARMY EVALUATION CENTER	61,450	61,450	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
146	SIMULATION & MODELING FOR ACQ, RQTS, & TNG [SMART]	3,926	3,926	.....
147	PROGRAMWIDE ACTIVITIES	73,685	73,685	.....
148	TECHNICAL INFORMATION ACTIVITIES	48,309	48,309	.....
149	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	53,338	60,842	+ 7,504
150	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	3,195	3,195	.....
151	MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT)	16,154	16,154	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,142,383	1,213,087	+ 70,704
	OPERATIONAL SYSTEMS DEVELOPMENT			
153	MLRS PRODUCT IMPROVEMENT PROGRAM	51,619	15,619	- 36,000
154	AEROSTAT JOINT PROJECT OFFICE	372,493	372,493	.....
155	INTELLIGENCE SUPPORT TO CYBER [ISC] MIP	2,360	2,360	.....
156	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	24,622	24,622	.....
157	COMBAT VEHICLE IMPROVEMENT PROGRAMS	204,481	208,481	+ 4,000
158	MANEUVER CONTROL SYSTEM	25,540	25,540	.....
159	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	134,999	124,856	- 10,143
160	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	710	710	.....
161	DIGITIZATION	6,329	6,329	.....
162	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW [FBCB2] ..	3,935	3,935	.....
163	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	24,280	28,280	+ 4,000
164	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS .....	.....	.....	.....
165	TRACTOR CARD	14,870	14,870	.....
166	JOINT TACTICAL COMMUNICATIONS PROGRAM [TRI-TAC] .....	.....	.....	.....
167	JOINT TACTICAL GROUND SYSTEM	12,403	12,403	.....
168	JOINT HIGH SPEED VESSEL [JHSV]	3,153	3,153	.....
170	SECURITY AND INTELLIGENCE ACTIVITIES .....	.....	.....	.....
171	INFORMATION SYSTEMS SECURITY PROGRAM	54,784	55,534	+ 750
172	GLOBAL COMBAT SUPPORT SYSTEM	125,569	125,569	.....
173	SATCOM GROUND ENVIRONMENT (SPACE)	33,694	33,694	.....
174	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	13,024	13,024	.....
175	JOINT COMMAND AND CONTROL PROGRAM [JC2] .....	.....	.....	.....
177	TACTICAL UNMANNED AERIAL VEHICLES	54,300	53,641	- 659
178	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	103,002	103,002	.....
179	MQ-1 SKY WARRIOR A UAV	123,156	123,156	.....
180	RQ-11 UAV	1,599	1,599	.....
181	RQ-7 UAV	7,805	7,805	.....
182	AERIAL COMMON SENSOR [ACS] .....	.....	.....	.....
183	BIOMETRICS ENABLED INTELLIGENCE	14,114	14,114	.....
184	AVIONICS COMPONENT IMPROVEMENT PROGRAM .....	.....	.....	.....
185	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	61,098	78,898	+ 17,800
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	1,473,939	1,453,687	- 20,252
	CLASSIFIED PROGRAMS	4,447	4,447	.....
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY	10,333,392	10,513,704	+ 180,312

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
2	Defense Research Sciences	195,845	219,145	+ 23,300
	Advanced Energy Storage Research .....	.....	.....	+ 2,000
	Bioactive Polymers and Coating Systems for Protection against Bio-threats .....	.....	.....	+ 5,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Global Military Operating Environments [GMOE]			+ 2,000
	High-frequency Devices and Circuits for Nanotubes and Nanowires			+ 3,000
	Integrated Flexible Electronics			+ 2,000
	Protection using Ballistic Core Technology			+ 3,500
	Revolutionary Biomedical Engineering for Surgery and Triage			+ 2,300
	Ultracold Matter Inertial Sensor Systems			+ 2,000
	Vision Integrating Strategies in Ophthalmology and Neurochemistry [VISION]			+ 1,500
3	University Research Initiatives	91,161	106,461	+ 15,300
	V72: Transfer to D55			- 3,300
	D55: Transfer from V72			+ 3,300
	V72: Non Department of Defense funding			- 6,600
	Advanced Materials Design and Processing Development			+ 2,000
	Burn and Shock Trauma Institute			+ 2,400
	High Tech Brain Interface Research			+ 1,500
	National Security Human Rights Strategy			+ 9,500
	Open Source Intelligence for Force Protection and Intelligence Analysis			+ 500
	Portable High Performance Sensor Technologies			+ 4,000
	MRAP Armored Vehicle Precision Engineering and Manufacturing Advancement			+ 2,000
4	University and Industry Research Centers	98,087	123,387	+ 25,300
	Anode Materials for Improved Lithium Ion Battery Performance			+ 2,000
	Biomarkers of Exposure to Toxic Industrial Chemicals			+ 2,000
	Electrolyte Additives for Improved Lithium Ion Battery Performance			+ 1,800
	Materials Processing and Applications Development Center			+ 4,000
	Micro-electro-mechanical Systems [MEMS] Antenna for Wireless Communications			+ 3,000
	Nanoscale Solar Powered Bio-Sensors			+ 3,000
	National Information Assurance Center			+ 6,000
	Partnership for National Security			+ 3,500
5	Materials Technology	29,882	91,882	+ 62,000
	Additive Manufacturing Repair Center			+ 4,000
	Advanced Ballistic Testing of Lithia Alumina Silicate and Disilicate Glass Ceramic Armor			+ 4,000
	Advanced Materials and Manufacturing Solution to Complex Problems			+ 4,500
	Affordable Light-Weight metal Matrix Composite [MMC]			+ 3,500
	Ballistic Armor Research			+ 4,000
	Composite Applied Research and Technology for Tactical Vehicle Security			+ 3,000
	Implementation of Aging and Battle Damaged Weapon Systems Repair Processes			+ 1,500
	Large Scale Manufacturing of Nanostructured Material			+ 2,000
	Lighter Body Armor Inserts for U.S. Soldier			+ 2,000
	Magnesium armor manufacturing for ground vehicles			+ 2,000
	Materials Technology for LED Lighting Applications ..			+ 3,000
	Multifunctional Technologies Alliance			+ 6,000
	Nanomanufacturing of Integrated Smart Materials Systems			+ 2,000
	Next Generation Aluminum Armor Plate Alloy			+ 1,500
	Next Generation High Strength Glass Fibers for Ballistic Armor Applications			+ 2,500

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Next Generation Lightweight Drive Systems for Army Weapon Systems			+ 2,000
	Next Generation materials Corrosion Inhibitor			+ 2,500
	Next Generation Protective Seat			+ 5,000
	Renewable Jet Fuel from Lignocellulosic Feedstocks ..			+ 2,000
	Surface Preservation/Enhancement Repair Research Facility [SPERRF]			+ 5,000
6	Sensors and Electronic Survivability	48,929	54,929	+ 6,000
	Miniature Universal Electro-optic Soldier Sensor Platform IED Detection			+ 3,500
	Nanophotonic Devices			+ 2,500
8	Aviation Technology	43,476	50,876	+ 7,400
	Advanced Prognostic Capabilities System for Unmanned Aerial Systems [APCS-UAS]			+ 4,400
	CH-47 Vibration Control System			+ 3,000
9	Electronic Warfare Technology	17,330	21,830	+ 4,500
	Matchbox/MX Server			+ 4,500
10	Missile Technology	49,525	52,025	+ 2,500
	Swarms Defense System			+ 2,500
12	Advanced Concepts and Simulation	20,582	26,582	+ 6,000
	Cognitive Map Based Modeling and Simulation for Tactical Decision Support			+ 2,000
	LVC: Advanced Live, Virtual, and Constructive Training Systems			+ 4,000
13	Combat Vehicle and Automotive Technology	64,740	90,240	+ 25,500
	Advanced Materials Research for Alternative Energy and Transportation			+ 1,000
	Defense Advanced Transportation Technology Program, Hybrid Truck Users Forum			+ 3,000
	Hybrid Electric Drive Vehicle Reliability Research			+ 3,000
	Manufacturing Process Improvements for Powertrain Components			+ 4,000
	Simulation Based Reliability and Safety (SimBRS) DoD Program			+ 4,500
	Unmanned Ground Vehicle Initiative			+ 10,000
14	Ballistics Technology	60,342	67,342	+ 7,000
	Enabling Optimization of Reactive Armor			+ 5,000
	Eye-safe Standoff Fusion Detection of CBE Threats ..			+ 2,000
15	Chemical, Smoke and Equipment Defeating Technology	5,324	15,324	+ 10,000
	Emerging Chemical Agent Threat			+ 7,000
	Missouri Multi-Threat Detection Initiative			+ 3,000
17	Weapons and Munitions Technology	42,645	87,245	+ 44,600
	Advanced Lightweight Materials for Enhanced Lethality and Survivability of Warfighter			+ 1,500
	Advanced Materials and Process for Armament Structures [AMPAS]			+ 5,000
	Emerging Technologies in Advanced Materials			+ 5,000
	Energy Efficient Electronic Systems			+ 4,000
	Laser Guided Energy			+ 5,600
	NanoTechnology Enterprise Consortium			+ 5,000
	Powder Injection Molding for Advanced Munitions Applications			+ 2,000
	Riptide Unmanned Ground Vehicle [UGV] Weaponization			+ 2,500
	Self-inerting Munitions			+ 1,000
	Static Detonation Chamber			+ 5,000
	Titanium Extraction, Mining and Process Engineering Research			+ 6,000
	Unmanned Hybrid Projectiles			+ 2,000
18	Electronics and Electronic Devices	60,859	111,959	+ 51,100
	Accelerated Materials Development and Characterization for Army Cannon Systems			+ 3,000
	2.0kW Stirling Tactical Cogeneration System (StACS)			+ 3,500

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Advanced High Energy Density Battery Chemistry for Portable Power			+ 3,300
	Advanced Power Source for Future Soldiers			+ 1,500
	Advanced Wearable Power Systems			+ 3,000
	Army Tactical Asset Visibility			+ 1,500
	DC Air Conditioner Suitable for PV Solar Air Conditioning Using Novel VSD Technology and Commercial AC Compressors			+ 3,500
	Extreme Temperature, Lightweight, Lithium-iron Disulfide batteries			+ 1,000
	High-Frequency, High-Power Electronic and Optoelectric Devices on Aluminum Nitride (AlN)			+ 6,500
	Large Format Lithium Ion Battery			+ 5,000
	Logistics Fuel Processing Advancement			+ 2,500
	Low Cost Automated Production of Superior High Capacity, High Rate, Rechargeable Lithium-Ion Batteries			+ 3,000
	Research Program in Plastic Materials for Portable Soldier Power and Electronics			+ 5,000
	Silicon carbide devices for power systems			+ 2,000
	Stabilized Enzyme Biofuel Cell for Unmanned Ground Sensors			+ 2,000
	The Integration of Nanoscale Techniques for an Improved Battery Technology for Electric Vehicles			+ 1,000
	Ultra High Efficiency Heat Pump for Cooling and Heating Using In-Rush Control via Variable Speed Operation and Pulsing Refrigerant Flow Control			+ 3,800
19	Night Vision Technology	40,228	41,728	+ 1,500
	Laser Detection of Radionuclides for Nuclear Facilities			+ 1,500
20	Countermeasure Systems	19,118	29,118	+ 10,000
	Microcantilever MEMS Microsensors for Protection of the Warfighter			+ 4,000
	Pacific Island UXO Detection and Munition Study			+ 3,000
	Sensors for Terrorist IED Network Defeat			+ 3,000
22	Environmental Quality Technology	18,364	20,364	+ 2,000
	Responsible Environmental Nanotechnologies			+ 2,000
25	Military Engineering Technology	79,189	80,334	+ 1,145
	Joint Integrated Base Defense Program Office transfer to RDT&E, Army, Line 60 at request of the Army			- 4,005
	Cellulose Nanocomposites Panels For Forward Operating Base Infrastructure			+ 2,150
	Geosciences/Atmospheric Research			+ 3,000
27	Warfighter Technology	27,746	36,746	+ 9,000
	Adjustable and Adaptive Insulation for Small Tents and Sleeping Bags			+ 1,000
	Biosecurity Research for Soldier Food Safety			+ 3,000
	Improved Thermal Resistant Nylon for Enhanced Durability & Thermal Protection in Combat Uniforms			+ 3,000
	Laser Studied and Enhanced Reactive Materials: Self-Decontaminating Polymers for Chemical-Biological Defense			+ 2,000
28	Medical Technology	96,797	168,555	+ 71,758
	Cell Based Therapeutic Products for Burns			+ 4,000
	Center for Advanced Emergency Response Training System			+ 4,300
	Center for Respiratory Biodefense			+ 3,000
	Clinical Development of a Norovirus Gastroenteritis Vaccine			+ 5,000
	Complementary and Alternative Medicine Research for Military Operations [MIL-CAM]			+ 6,500

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Development of Drugs for Malaria and Leishmaniasis			+ 3,400
	Emerging Infectious Diseases and Links to Desert Environments			+ 2,000
	FASTinfo: Patient Status Monitor			+ 1,000
	Hypothermia and Regenerative Treatments for Neurotrauma			+ 5,600
	Identification of Immune Tolerance to Expand Blood Supply			+ 1,200
	Locally Delivered Treatments for Noise Induced Hearing Loss and Tinnitus			+ 2,000
	Long Term Pain and Infection Management for Combat Casualty Care			+ 2,700
	New Vaccines for Central Nervous System Disorders			+ 2,000
	Optical Neural Techniques for Combat and Post-Trauma Healthcare			+ 3,500
	Oxygen Delivery Patch			+ 1,500
	Protein Hydrogel for Surgical Repair of Battlefield Injuries			+ 1,800
	Regenerative Medicine Research			+ 2,200
	Regenerative Sciences Initiative			+ 3,600
	Regenerative Therapeutics for Combat Wound Healing			+ 4,000
	Regenerative Wound Repair Technology			+ 2,000
	Scleral Healing and Bone Repair with Spherotemplated (6S) Polymers			+ 1,500
	Spray Dried Plasma			+ 2,000
	The Operating Room of the Future			+ 2,000
	Tissue Regeneration Following Injury			+ 958
	Translational Research in Motor Performance			+ 2,000
	Treatment of Osteoporosis and Bone Fractures			+ 2,000
29	Warfighter Advanced Technology	37,364	46,664	+ 9,300
	Advanced Packaging Materials for Combat Rations ..			+ 1,000
	Durability Study on Flame Resistant Garments			+ 1,500
	Flame and Thermal Protection for the Individual Soldier			+ 2,300
	Fully Integrated Head Protection System			+ 2,500
	Sustainable High Performance Rigid Containers for Military Rations			+ 2,000
30	Medical Advanced Technology	71,510	158,310	+ 88,800
	Advanced Regenerative Medicine Therapies for Combat Injuries			+ 3,000
	Advanced Ultrasound for Combat Casualty Care			+ 1,000
	Advancing iPSC Technology for Regenerative Medicine Therapies to Treat Combat Injuries			+ 3,000
	Amputee Skin Breakdown Research and Development			+ 3,000
	Army Injury Prevention and Performance Enhancement Research Initiative			+ 2,000
	Battlefield Telemedicine System [BTS]			+ 4,000
	Biosensor, Communicator and Controller System			+ 5,000
	Blood Safety and Decontamination Technology			+ 3,000
	Bone Fracture Dart Gun for Rapid Fixation of Battlefield Injuries			+ 1,250
	Development of a therapy for traumatic injury and uncontrolled hemorrhage			+ 1,100
	Enhanced Gait and Balance Retraining for Injured Soldiers			+ 2,000
	Highly Functional Neurally Controlled Skeletally Attached and Intelligent Prosthetic Devices			+ 4,000
	Infection Prevention Program for Battlefield Wounds			+ 2,000
	Intelligent Orthopedic Fracture Implant Program			+ 1,500

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Manufacturability of Advanced Prosthetic Limbs			+ 4,000
	Military Burn Trauma Research Program			+ 8,000
	Military Drug Management Systems			+ 2,000
	Military Nutrition Research			+ 1,000
	National Biodefense Training Center			+ 5,000
	Ocular Wound Treatment			+ 2,500
	Rapid Bedside Cellular Therapy for Burn Wounds			+ 2,250
	Rehabilitation Technology Transition Center			+ 3,500
	Smart Prosthetic Hand Technology			+ 3,000
	Smart Wound Dressing for MRSA-infected Battlefield Wounds			+ 3,500
	Staph Vaccine			+ 6,000
	The Cooperative International Neuromuscular Research Group			+ 5,200
	Trauma Care, Research and Training			+ 3,000
	Treatment of Battlefield Spinal Cord and Burn Injuries			+ 2,000
31	Aviation Advanced Technology	57,454	88,054	+ 30,600
	Enhanced Rapid Tactical Integration for Fielding of Systems Initiative—[ERTIFS]			+ 5,000
	Installation Support and Production Qualification Testing of Army's First Fielding of V35/85 and Torquemeter Equipment			+ 2,500
	Parts on Demand for CONUS Operations			+ 4,000
	Self-Separation Technologies for Army Unmanned Aircraft Systems [UAS]			+ 2,500
	Technology Insertion for Army Aviation Legacy Systems			+ 2,600
	UH-60 Transmission/Gearbox Galvanic Corrosion Reduction			+ 2,000
	Universal Control Program			+ 5,000
	Unmanned Aerial Vehicle Resupply [UAVR]-BURRO			+ 3,000
	Vectored Thrust Ducted Propeller [VTDP] Compound Helicopter Flight Demonstration Program			+ 4,000
32	Weapons and Munitions Advanced Technology	64,438	100,838	+ 36,400
	Advanced Medium Caliber Tungsten Penetrators			+ 4,000
	Advanced Reactive Hybrid Armor Material Technology			+ 3,200
	Advanced Robot and Sensor Technologies for Surveillance and Energy Efficiency Applications			+ 2,500
	Containment Vehicle for the Suppression and Transport of Munitions and IED's			+ 2,000
	Experimental Fighting Vehicle			+ 7,500
	Lightweight Cannon Recoil Reduction [LCRR]			+ 2,000
	Lightweight Munitions and Surveillance System for Unmanned Air Vehicles			+ 4,800
	Non-Lethal Portable Vehicle Immobilization Device [NLPVID] for Large Vehicles			+ 1,000
	Quad Cities Manufacturing Laboratory			+ 6,400
	Stand-off IED Detection			+ 3,000
33	Combat Vehicle and Automotive Advanced Technology	89,499	197,699	+ 108,200
	Advanced Motion Simulation System			+ 500
	Advanced Thermal Management Systems			+ 2,000
	Alternative Energy			+ 45,400
	Development of Large Scale PEM Electrolysis for Hydrogen Fueling of Ground Vehicle Fleets			+ 2,000
	Force Projection Technology Development			+ 4,000
	Future Tactical Truck Composite Shelter			+ 2,000
	Ground System Power and Mobility Enhancement			+ 10,000
	Hydraulic Hybrid Vehicles for the Tactical Wheeled Fleet			+ 2,700
	Hydrocarbon Fueled Solid Oxide Fuel Cell Manufacturability			+ 2,000
	Improved Ground System Survivability			+ 5,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Joint Vehicle Lifecycle Management			+ 3,000
	Lightweight Armored Hybrid Power Generating Tactical Vehicle			+ 2,000
	Military Installation Electric Vehicle Demonstration Project			+ 2,000
	Nanophosphate Battery Storage for the Smart Grid and V2G Integration			+ 2,000
	On-Board Vehicle Power Systems Development			+ 4,600
	Plug-in Hybrid Electric Cargo Vehicle			+ 4,000
	Plug-In Hybrid Electric Vehicle Program			+ 2,000
	Rubber Track Conversion System for MRAP Vehicles			+ 2,000
	Sustainable Water Production			+ 2,500
	Threat cue research			+ 2,000
	Vehicle Electronics and Architecture Development			+ 5,000
	Zouline Armor			+ 1,500
34	Command, Control, Communications Advanced Technology	8,102	17,302	+ 9,200
	Cyberspace Technology Integration [CTI]			+ 4,200
	Multi Frequency Meshed Battle-Cloud Network			+ 5,000
36	Electronic Warfare Advanced Technology	50,359	51,859	+ 1,500
	Cybersecurity in Tactical Environments			+ 1,500
38	Next Generation Training & Simulation Systems	15,334	16,334	+ 1,000
	Combat Medic Trainer			+ 1,000
43	Electronic Warfare Technology	18,350	21,350	+ 3,000
	Advanced Ground EW & Signals Intelligence System			+ 3,000
44	Missile and Rocket Advanced Technology	84,553	92,753	+ 8,200
	P 704 excessive growth without strategy			- 6,500
	Advanced Commercial Technology Insertion for Aviation and Missile Research, Development, & Engineering			+ 3,100
	Army Responsive Tactical Space System Exerciser [ARTSSE]			+ 2,600
	Low-Cost Anti-Tamper Integrated Circuit			+ 4,500
	Rapid Response Hostile Fire Detection and Active Protection of Ground and Air Vehicles Sensor Demonstration			+ 4,500
46	Landmine Warfare and Barrier Advanced Technology	26,953	31,953	+ 5,000
	Force Protection Demining			+ 5,000
48	Night Vision Advanced Technology	39,912	58,512	+ 18,600
	Compact Airborne Multi-mission payload			+ 3,000
	Enhanced Situational Awareness Technology Demonstrator			+ 2,000
	Mini Long Range Scout Surveillance System			+ 2,600
	Smart Sensor Supercomputing Center			+ 9,000
	Spider Munitions System Research			+ 2,000
49	Environmental Quality Technology Demonstrations	15,878	16,878	+ 1,000
	Permafrost Tunnel			+ 1,000
50	Military Engineering Advanced Technology	27,393	49,793	+ 22,400
	2nd Generation Fully Fungible Biofuels			+ 5,000
	Advanced Energy Storage Systems for military use			+ 2,000
	Advanced High Performance Coatings for DoD Infrastructure			+ 2,000
	Biomass to Liquid Fuel Using Synthetic Enzymes (Phase II)			+ 2,000
	Photovoltaic technology development			+ 5,000
	Production of Wood-Based Diesel and Jet Fuel at Pulp and Paper Facilities			+ 3,000
	Projectile Penetration Research			+ 2,400
	Solar-Assisted Hot Water and Space Conditioning			+ 1,000
51	Advanced Tactical Computer Science and Sensor Technology	24,873	26,373	+ 1,500
	Shared Vision			+ 1,500

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
53	Army Missile Defense Systems Integration (Non Space)	11,455	53,755	+ 42,300
	Adaptive Lightweight Materials for Missile Defense ..			+ 5,000
	Adaptive Robotics Technology for Space, Air and Missiles			+ 5,400
	Advanced Cavitation Power Technology			+ 4,100
	Advanced Environmental Control System			+ 4,000
	Advanced Fuel Cell Research Program			+ 3,000
	Alternative Power Technology for Missile Defense			+ 2,000
	Continuous Threat Alerting Sensing System [CTASS]			+ 2,000
	Detection Algorithms and Software for Force Protection			+ 1,200
	Discriminatory Imaging and Network Advancement for Missiles, Aviation and Space			+ 5,200
	High Temperature Polymers for Missile System Applications			+ 4,000
	Real Time MS Laser Applied Research			+ 2,200
	Vertical Integration for Missile Defense Surveillance Data			+ 4,200
54	Army Missile Defense Systems Integration (Space)	27,551	47,151	+ 19,600
	Army Responsive Tactical Space			+ 2,000
	Cyber Assurance Tool Set			+ 4,600
	High Altitude Shuttle System [HASS]			+ 4,000
	Nanocomposite Enhanced Radar and Aerospace Materials			+ 2,000
	Positron Capture and Storage			+ 3,000
	Small Agile Tactical Spacecraft [SATS]			+ 4,000
58	Tank and Medium Caliber Ammunition	42,183	27,183	- 15,000
	AKE 120mm cartridge EMD Phase II contract award delay			- 15,000
59	Advanced Tank Armament System [ATAS]	136,302	207,702	+ 71,400
	S-MOD milestone B delay			- 57,000
	Stryker DVH			+ 128,400
60	Soldier Support and Survivability	18,556	8,239	- 10,317
	Joint Integrated Base Defense Program Office transfer from RDT&E, Army, Line 25 at request of the Army			+ 4,005
	REF funded in Title IX			- 14,322
61	Tactical Electronic Surveillance System—Adv Dev	17,962	12,162	- 5,800
	Unsustained growth			- 5,800
62	Night Vision Systems Advanced Development		5,159	+ 5,159
	CSP: Transfer from RDA, Line 177 for execution at request of the Army			+ 5,159
63	Environmental Quality Technology	4,695	7,695	+ 3,000
	Hawaii Undersea Military Munitions Assessment			+ 3,000
67	Logistics and Engineer Equipment—Adv Dev	80,490	67,315	- 13,175
	JLTV EMD contract award delay			- 15,175
	Expeditionary Water Reclamation System			+ 2,000
69	Medical Systems—Adv Dev	28,132	30,132	+ 2,000
	Wireless Medical Monitoring System (WIMed)			+ 2,000
70	Soldier Systems—Advanced Development	48,323	66,923	+ 18,600
	Transfer from OPA, line 147 for Ground Soldier Systems EMD			+ 18,600
73	Aircraft Avionics	89,210	74,210	- 15,000
	SOSCOE Apache Block III integration change in requirements			- 15,000
75	Electronic Warfare Development	172,269	153,755	- 18,514
	CIRCM test and evaluation funds requested ahead of need			- 22,514
	Hostile Fire Detection for U.S. Army/Navy helicopters			+ 4,000
77	All Source Analysis System	22,574	18,074	- 4,500
	EMD contract award delay			- 4,500
79	Infantry Support Weapons	80,337	68,337	- 12,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	S62: Milestone B delay			-16,500
	Advanced Ceramic Material for Lightweight ESAPI Body Armor			+2,000
	Portable Helicopter Oxygen Delivery System Console			+2,500
82	JAVELIN	9,999		-9,999
	Lack of acquisition strategy			-9,999
83	Family of Heavy Tactical Vehicles	3,519	15,519	+12,000
	Family of Heavy Tactical Vehicles			+12,000
86	Non-Line of Sight Launch System	81,247		-81,247
	Program termination			-81,247
105	Weapons and Munitions—SDD	24,345	21,345	-3,000
	PGK Increment II EMD delay			-9,000
	155mm Less Toxic Smoke Projectile			+6,000
106	Logistics and Engineer Equipment—SDD	41,039	43,039	+2,000
	Basecamp Environmental Management Systems			+2,000
107	Command, Control, Communications Systems—SDD	90,736	60,736	-30,000
	JBC—P unsustained growth			-30,000
108	Medical Materiel/Medical Biological Defense Equipment—SDD	34,474	38,974	+4,500
	Automated Critical Care System			+4,500
109	Landmine Warfare/Barrier—SDD	95,577	52,977	-42,600
	Project 016: Scorpion acceleration funded in prior approval reprogramming			-16,000
	Project 415: ASTAMIDS/GSTAMIDS lack of acquisition strategy			-30,000
	AT4—Confined Space Tandem Warhead YJ05			+3,400
111	Combat Identification	29,884	3,000	-26,884
	Unexecutable request			-26,884
116	Artillery Systems	53,624	83,624	+30,000
	Transfer from Weapons and Tracked Combat Vehicles, Army Line 12 for Paladin PIM			+30,000
120	Army Integrated Military Human Resources System [A-IMHRS]	100,500	60,500	-40,000
	Excessive growth without acquisition strategy			-40,000
125	Manned Ground Vehicle	934,366	461,100	-473,266
	Program adjustment			-473,266
128	Electronic Warfare Development	21,571	13,571	-8,000
	EW5: Unsustained growth			-8,000
129	Threat Simulator Development	26,158	33,958	+7,800
	Integrated Cyber Test and Evaluation Environment			+7,800
136	Army Test Ranges and Facilities	393,937	434,537	+40,600
	Test and Evaluation Instrumentation unfunded requirement			+17,700
	Army Test Range Infrastructure unfunded requirement			+22,900
137	Army Technical Test Instrumentation and Targets	59,040	65,040	+6,000
	Advanced CB Aerosol Referee Instrumentation for Dugway			+4,000
	Triad Phase 3			+2,000
139	DOD High Energy Laser Test Facility	4,710	9,710	+5,000
	HELSTF			+5,000
142	Materiel Systems Analysis	18,078	21,878	+3,800
	VePro—Implementation of Fatigue Data Analysis & Management Methods to Extend Vehicle Life			+3,800
149	Munitions Standardization, Effectiveness and Safety	53,338	60,842	+7,504
	Project 862: 155mm HE projectile underfunded new start			-9,296
	Army Range Technology Program			+5,800
	Demilitarization of HC White Smokes			+2,500
	Large Caliber Parts Upgrade			+2,000
	Press-Loaded Explosive Projectile Washout Line			+1,500
	Unserviceable Ammunition Demilitarization via Chemical Acid Dissolution			+2,600
	Zirconium Oxychloride Manufacturing Optimization			+2,400

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
153	MLRS Product Improvement Program	51,619	15,619	- 36,000
	GMLRS AW EMD contract award delay			- 36,000
157	Combat Vehicle Improvement Programs	204,481	208,481	+ 4,000
	Vibration Management Enhancement Program			+ 4,000
159	Aircraft Modifications/Product Improvement Programs	134,999	124,856	- 10,143
	P430: Chinook RW crashworthy seating previously fully funded			- 10,143
163	Missile/Air Defense Product Improvement Program	24,280	28,280	+ 4,000
	Sentinel Active Electronically Scanned Array			+ 4,000
171	Information Systems Security Program	54,784	55,534	+ 750
	Biometrics DNA			+ 750
177	Tactical Unmanned Aerial Vehicles	54,300	53,641	- 659
	CSP: transfer of HD IR funds to RDA, line 62, at request of the Army for execution			- 5,159
	4th Generation Wireless RF Target Exploitation from Unmanned Aerial Vehicles [UAVs]			+ 4,500
185	End Item Industrial Preparedness Activities	61,098	78,898	+ 17,800
	Advanced Ultrasonic Inspection of Helicopter Rotor Blades and Condition Monitoring of Helicopter Components			+ 2,000
	End Item Industrial Preparedness Activities			+ 2,000
	Improved Manufacturing Processes Demonstration Program for Army Tactical Vehicles			+ 1,500
	Polymeric Web Run-Flat Tire Inserts for Convoy Protection			+ 4,000
	Smart Machine Platform Initiative			+ 3,500
	Superior Weapons Systems through Castings			+ 2,500
	Vet-Biz Initiative for National Sustainment [VINS]			+ 2,300

Research, Development, Test and Evaluation, Army [RDT&E, A] Justification Materials.—The fiscal year 2011 budget justification materials for RDT&E, Army, Budget Activities 4–7 were incomplete and contained numerous errors, e.g. by displaying funding requests in incorrect lines, misaligning funding requests and the associated narratives, failing to provide explanations for funding increases, providing incomplete schedules, omitting contract award information, and in some instances not providing the appropriate r-forms. The Committee notes that budget justification materials are critical to conducting oversight and expects these issues to be remedied in future budget submissions.

Minerva.—The budget request includes \$21,600,000 for Minerva, an increase of \$9,100,000 over the amount appropriated in fiscal year 2010, to expand the Department's understanding of social, cultural and behavioral forces that shape various regions of the world. The Committee notes that this request includes \$5,000,000 which is twice the amount appropriated in fiscal year 2010, to expand Minerva chairs at Defense education institutions. The Committee believes that this new component of the Minerva program has the potential to build significant in-house expertise in the social sciences that directly impacts the Warfighter, and fully supports this increase. However, the Committee remains concerned about funding long-term academic research projects and does not support transferring funds to non-Department of Defense agencies.

At request of the Department, the Committee transfers \$3,300,000 from project V72 to project D55 for appropriate execution by the Army.

Emerging Chemical Agent Threat.—The Committee is aware of an urgent unfunded requirement to address an emerging chemical agent threat, as identified by the Department of Agriculture. The Committee understands that the Department of Agriculture has established an Interagency Agreement with the Army and has initiated work to address this threat with available funds in fiscal year 2010. The Committee provides \$7,000,000, the unfunded amount for fiscal year 2011, to continue this work. The Committee understands that the Department of Agriculture will fully budget for this requirement in fiscal year 2012.

Ground Soldier System [GSS].—The fiscal year 2011 budget request includes \$36,100,000 in Research, Development, Test and Evaluation, Army for the Ground Soldier System. The Army had originally assumed that the program would complete the technology development [TD] phase halfway through fiscal year 2011 and transition directly to procurement. However, the Committee understands that the Army is changing the acquisition strategy and now plans to enter an engineering and manufacturing development [EMD] phase following completion of TD. Therefore, the Committee transfers funds requested prematurely for procurement to Research and Development, Army to fund the EMD phase in fiscal year 2011.

Electronic Warfare Development.—This program element includes no less than three separate research and development programs within one project code, L20, to include Common Infrared Countermeasures [CIRCM], Hostile Fire Detection System [HFDS] and Common Missile Warning System [CMWS], as well as associated Quick Reaction Capabilities [QRC]. To better distinguish funding requirements associated with each effort, the Committee directs the Army to establish separate project codes for each of these programs in future budget submissions.

Paladin Integrated Management [PIM].—Following submission of the budget request, the Army restructured the Paladin PIM program, delaying Milestone C by at least 2 years. The Committee understands that a revised program cost estimate has not yet been completed, but recognizes the need for additional research and development funding in fiscal year 2011. The Committee has provided \$30,000,000 above the research and development budget request for PIM, consistent with S. 3454, the National Defense Authorization Act for Fiscal Year 2011, as reported.

Ground Combat Vehicle [GCV].—The fiscal year 2011 budget request includes \$934,366,000 for the GCV, intended to replace roughly one-half of the Bradley Fighting Vehicle fleet. The total estimated development cost was \$7,609,400,000 and the procurement of 1,450 vehicles was estimated to be \$32,540,200,000, for a program acquisition cost of \$23,200,000 per vehicle. Subsequent to the budget submission, the Army revised the GCV requirements and acquisition strategy, resulting in a 6-month contract award delay. As a result, the fiscal year 2011 funding requirement is lower than the budget request. The Committee provides \$462,100,000, as requested by the Army, to fully fund the revised program.

The Committee commends the Army for addressing major concerns surrounding the GCV, to include affordability and requirements creep. However, the Committee remains concerned about the

program's overall affordability as well as the advisability of initiating a major combat vehicle program that will impact only a marginal portion of the Army's force structure while the Army's overall combat vehicle modernization plans remain in flux. The Committee notes that of the \$378,300,000 provided by Congress for the modernization of combat vehicles since fiscal year 2008, the Army has set over \$200,000,000 aside for other priorities, and has additionally failed to provide any justification for its fiscal year 2011 combat vehicle modernization budget request, thereby delaying significant improvements to a majority of its combat vehicle fleet. The Committee expects the Army to address these issues in the fiscal year 2012 budget submission.

Unfunded Requirements for Army Test Ranges and Facilities.— The Army has identified unfunded requirements of \$17,700,000 for instrumentation across the Department of Defense Major Range Test Facilities, and \$22,900,000 to repair and upgrade infrastructure at Aberdeen Proving Grounds that has been significantly degraded, in part due to increased testing associated with the Mine Resistant Ambush Protected Vehicle program. The Committee has fully funded those requirements.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY

Appropriations, 2010	\$20,003,463,000
Budget estimate, 2011	17,693,496,000
Committee recommendation	17,693,981,000

The Committee recommends an appropriation of \$17,693,981,000. This is \$485,000 above the budget estimate.

COMMITTEE RECOMMENDED PROGRAM

The following table summarizes the budget estimate for this appropriation, the Committee recommendation, and the Committee recommended adjustments to the budget estimate:

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY			
	BASIC RESEARCH			
1	UNIVERSITY RESEARCH INITIATIVES	108,679	113,679	+ 5,000
2	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	17,979	17,979	.....
3	DEFENSE RESEARCH SCIENCES	429,767	436,967	+ 7,200
	TOTAL, BASIC RESEARCH	556,425	568,625	+ 12,200
	APPLIED RESEARCH			
4	POWER PROJECTION APPLIED RESEARCH	98,150	120,150	+ 22,000
5	FORCE PROTECTION APPLIED RESEARCH	107,448	159,948	+ 52,500
6	MARINE CORPS LANDING FORCE TECHNOLOGY	43,776	45,276	+ 1,500
7	MATERIALS, ELECTRONICS, AND COMPUTER TECHNOLOGY .....	.....	2,000	+ 2,000
8	COMMON PICTURE APPLIED RESEARCH	70,168	73,668	+ 3,500
9	WARFIGHTER SUSTAINMENT APPLIED RESEARCH	113,724	129,924	+ 16,200
10	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	83,902	83,902	.....
11	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	49,491	53,491	+ 4,000
12	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,002	6,002	.....
13	UNDERSEA WARFARE APPLIED RESEARCH	69,186	73,186	+ 4,000
14	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	36,833	40,333	+ 3,500
	TOTAL, APPLIED RESEARCH	678,680	787,880	+ 109,200

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	ADVANCED TECHNOLOGY DEVELOPMENT			
15	POWER PROJECTION ADVANCED TECHNOLOGY	117,908	125,908	+ 8,000
16	FORCE PROTECTION ADVANCED TECHNOLOGY	61,877	86,477	+ 24,600
17	COMMON PICTURE ADVANCED TECHNOLOGY	96,720	103,720	+ 7,000
18	WARFIGHTER SUSTAINMENT ADVANCED TECHNOLOGY	98,261	98,261	.....
19	ELECTROMAGNETIC SYSTEMS ADVANCED TECHNOLOGY	82,143	101,143	+ 19,000
	RF SYSTEMS ADVANCED TECHNOLOGY .....	.....	.....	.....
20	MARINE CORPS ADVANCED TECHNOLOGY DEMONSTRATION [ATD]	115,089	122,089	+ 7,000
21	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT	11,131	11,131	.....
22	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	18,076	31,476	+ 13,400
23	UNDERSEA WARFARE ADVANCED TECHNOLOGY	49,276	49,276	.....
24	NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	53,177	53,177	.....
25	MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY ..	21,941	21,941	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	725,599	804,599	+ 79,000
	DEMONSTRATION & VALIDATION			
26	AIR/OCEAN TACTICAL APPLICATIONS	123,331	123,331	.....
27	AVIATION SURVIVABILITY	9,480	16,480	+ 7,000
28	DEPLOYABLE JOINT COMMAND AND CONTROL	4,275	4,275	.....
29	ASW SYSTEMS DEVELOPMENT	8,249	8,249	.....
30	TACTICAL AIRBORNE RECONNAISSANCE	6,452	6,452	.....
31	ADVANCED COMBAT SYSTEMS TECHNOLOGY	1,658	1,658	.....
32	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	81,347	81,347	.....
33	SURFACE SHIP TORPEDO DEFENSE	57,796	48,796	- 9,000
34	CARRIER SYSTEMS DEVELOPMENT	93,830	93,830	.....
35	SHIPBOARD SYSTEM COMPONENT DEVELOPMENT	51	17,051	+ 17,000
36	PILOT FISH	81,784	81,784	.....
37	RETRACT LARCH	142,858	142,858	.....
38	RETRACT JUNIPER	134,497	134,497	.....
39	RADIOLOGICAL CONTROL	1,358	1,358	.....
40	SURFACE ASW	21,673	21,673	.....
41	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	608,566	584,766	- 23,800
42	SUBMARINE TACTICAL WARFARE SYSTEMS	5,590	5,590	.....
43	SHIP CONCEPT ADVANCED DESIGN	17,883	18,883	+ 1,000
44	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	1,796	10,796	+ 9,000
45	ADVANCED NUCLEAR POWER SYSTEMS	366,509	366,509	.....
46	ADVANCED SURFACE MACHINERY SYSTEMS	5,459	21,459	+ 16,000
47	CHALK EAGLE	447,804	447,804	.....
48	LITTORAL COMBAT SHIP [LCS]	226,288	199,388	- 26,900
49	COMBAT SYSTEM INTEGRATION	24,344	24,344	.....
50	CONVENTIONAL MUNITIONS	5,388	5,388	.....
51	MARINE CORPS ASSAULT VEHICLES	242,765	222,265	- 20,500
52	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	40,505	33,203	- 7,302
53	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	25,873	25,873	.....
54	COOPERATIVE ENGAGEMENT	52,282	52,282	.....
55	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	13,560	13,560	.....
56	ENVIRONMENTAL PROTECTION	20,207	22,307	+ 2,100
57	NAVY ENERGY PROGRAM	30,403	34,403	+ 4,000
58	FACILITIES IMPROVEMENT	3,746	6,746	+ 3,000
59	CHALK CORAL	71,920	71,920	.....
60	NAVY LOGISTIC PRODUCTIVITY	4,139	10,139	+ 6,000
61	RETRACT MAPLE	219,463	219,463	.....
62	LINK PLUMERIA	58,030	58,030	.....
63	RETRACT ELM	183,187	183,187	.....
64	SHIP SELF DEFENSE	4,385	4,385	.....
65	LINK EVERGREEN	41,433	41,433	.....
66	SPECIAL PROCESSES	36,457	36,457	.....
67	NATO RESEARCH AND DEVELOPMENT	9,196	9,196	.....
68	LAND ATTACK TECHNOLOGY	905	905	.....
69	NONLETHAL WEAPONS	43,272	43,272	.....
70	JOINT PRECISION APPROACH AND LANDING SYSTEMS	159,151	159,151	.....
71	SINGLE INTEGRATED AIR PICTURE [SIAP] SYSTEM ENGINEER .....	.....	.....	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
73	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS		10,500	+ 10,500
74	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES	51,693	51,693	
75	JOINT COUNTER RADIO CONTROLLED IED ELECTRONIC WARFARE			
	FARE	56,542	56,542	
76	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM	25,121	25,121	
77	SPACE & ELECTRONIC WARFARE [SEW] ARCHITECTURE/ENGINE	34,793	34,793	
78	ASW SYSTEMS DEVELOPMENT—MIP	2,161	2,161	
79	SUBMARINE TACTICAL WARFARE SYSTEMS—MIP	4,253	4,253	
80	ELECTRONIC WARFARE DEVELOPMENT—MIP	663	663	
	TOTAL, DEMONSTRATION & VALIDATION	3,914,371	3,902,469	- 11,902
	ENGINEERING & MANUFACTURING DEVELOPMENT			
81	OTHER HELO DEVELOPMENT	44,329	44,329	
82	AV-8B AIRCRAFT—ENG DEV	22,867	22,867	
83	STANDARDS DEVELOPMENT	45,667	45,667	
84	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	55,792	55,792	
85	AIR/OCEAN EQUIPMENT ENGINEERING	5,735	5,735	
86	P-3 MODERNIZATION PROGRAM	3,574	3,574	
87	WARFARE SUPPORT SYSTEM	3,733	9,733	+ 6,000
88	TACTICAL COMMAND SYSTEM	89,955	89,955	
89	ADVANCED HAWKEYE	171,132	171,132	
90	H-1 UPGRADES	60,498	60,498	
90A	NAVAL AIRSHIP		10,000	+ 10,000
91	ACOUSTIC SEARCH SENSORS	64,834	64,834	
92	V-22A	46,070	46,070	
93	AIR CREW SYSTEMS DEVELOPMENT	8,689	8,689	
94	EA-18	22,042	22,042	
95	ELECTRONIC WARFARE DEVELOPMENT	80,819	80,819	
96	VH-71A EXECUTIVE HELO DEVELOPMENT	159,785	159,785	
97	NEXT GENERATION JAMMER [NGJ]	120,602	90,602	- 30,000
98	JOINT TACTICAL RADIO SYSTEM—NAVY (JTRS—NAVY)	687,723	607,723	- 80,000
99	SC-21 TOTAL SHIP SYSTEM ENGINEERING			
100	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	193,933	193,933	
101	LPD-17 CLASS SYSTEMS INTEGRATION	1,373	41,373	+ 40,000
102	SMALL DIAMETER BOMB [SDB]	44,091	26,991	- 17,100
103	STANDARD MISSILE IMPROVEMENTS	96,186	96,186	
104	AIRBORNE MCM	45,885	45,885	
105	NAVAL INTEGRATED FIRE CONTROL-COUNTER AIR SYSTEMS ENG	21,517	21,517	
106	ADVANCED ABOVE WATER SENSORS	274,371	277,371	+ 3,000
107	SSN-688 AND TRIDENT MODERNIZATION	118,897	117,697	- 1,200
108	AIR CONTROL	5,665	5,665	
109	SHIPBOARD AVIATION SYSTEMS	70,117	70,117	
110	COMBAT INFORMATION CENTER CONVERSION	5,044	5,044	
111	NEW DESIGN SSN	155,489	161,489	+ 6,000
112	SUBMARINE TACTICAL WARFARE SYSTEM	50,537	69,037	+ 18,500
113	SHIP CONTRACT DESIGN/LIVE FIRE T&E	153,686	170,686	+ 17,000
114	NAVY TACTICAL COMPUTER RESOURCES	4,443	4,443	
115	MINE DEVELOPMENT	5,455	5,455	
116	LIGHTWEIGHT TORPEDO DEVELOPMENT	25,282	25,282	
117	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	10,489	10,489	
118	PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS	10,759	10,759	
119	JOINT STANDOFF WEAPON SYSTEMS	12,567	12,567	
120	SHIP SELF DEFENSE (DETECT & CONTROL)	45,930	52,430	+ 6,500
121	SHIP SELF DEFENSE (ENGAGE: HARD KILL)	5,860	17,860	+ 12,000
122	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	84,525	84,525	
123	INTELLIGENCE ENGINEERING	6,820	6,820	
124	MEDICAL DEVELOPMENT	12,337	23,337	+ 11,000
125	NAVIGATION/ID SYSTEM	66,636	66,636	
	DISTRIBUTED SURVEILLANCE SYSTEM			
126	JOINT STRIKE FIGHTER [JSF]—EMD	667,916	588,916	- 79,000
127	JOINT STRIKE FIGHTER [JSF]	707,791	678,791	- 29,000

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
128	INFORMATION TECHNOLOGY DEVELOPMENT	22,783	22,783	.....
129	INFORMATION TECHNOLOGY DEVELOPMENT	28,280	57,405	+ 29,125
130	NAVY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM	27,444	15,444	- 12,000
131	CH-53K	577,435	577,435	.....
132	C/KC-130 AVIONICS MODERNIZATION PROGRAM [AMP] .....	.....	.....	.....
133	JOINT AIR-TO-GROUND MISSILE [JAGM]	100,846	100,846	.....
134	MULTI-MISSION MARITIME AIRCRAFT [MMA]	929,240	929,240	.....
135	CG(X) .....	.....	.....	.....
136	DDG-1000	549,241	536,241	- 13,000
137	TACTICAL COMMAND SYSTEM—MIP	1,318	1,318	.....
138	SSN-688 AND TRIDENT MODERNIZATION—MIP	1,415	1,415	.....
139	TACTICAL CRYPTOLOGIC SYSTEMS	17,019	17,019	.....
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	6,852,468	6,750,293	- 102,175
	RDT&E MANAGEMENT SUPPORT			
140	THREAT SIMULATOR DEVELOPMENT	18,755	18,755	.....
141	TARGET SYSTEMS DEVELOPMENT	66,066	66,066	.....
142	MAJOR T&E INVESTMENT	37,522	41,522	+ 4,000
143	STUDIES AND ANALYSIS SUPPORT—NAVY	8,149	8,149	.....
144	CENTER FOR NAVAL ANALYSES	49,165	49,165	.....
145	SMALL BUSINESS INNOVATIVE RESEARCH .....	.....	.....	.....
146	TECHNICAL INFORMATION SERVICES	662	18,162	+ 17,500
147	MANAGEMENT, TECHNICAL, AND INTERNATIONAL SUPPORT	58,329	58,329	.....
148	STRATEGIC TECHNICAL SUPPORT	3,451	3,451	.....
149	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	72,094	72,094	.....
150	RDT&E SHIP AND AIRCRAFT SUPPORT	95,332	95,332	.....
151	TEST AND EVALUATION SUPPORT	376,418	376,418	.....
152	OPERATIONAL TEST AND EVALUATION CAPABILITY	15,746	15,746	.....
153	NAVY SPACE AND ELECTRONIC WARFARE [SEW] SUPPORT	4,013	4,013	.....
154	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	19,700	19,700	.....
155	MARINE CORPS PROGRAM WIDE SUPPORT	17,721	17,721	.....
156	TACTICAL CRYPTOLOGIC ACTIVITIES	1,859	1,859	.....
157	SERVICE SUPPORT TO JFCOM, JNTC	4,260	4,260	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	849,242	870,742	+ 21,500
	OPERATIONAL SYSTEMS DEVELOPMENT			
160	HARPOON MODIFICATIONS .....	.....	.....	.....
161	UNMANNED COMBAT AIR VEHICLE [UCAV] ADVANCED COMPONENT	266,368	266,368	.....
162	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	81,184	76,684	- 4,500
163	SSBN SECURITY TECHNOLOGY PROGRAM	34,997	34,997	.....
164	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	6,815	6,815	.....
165	NAVY STRATEGIC COMMUNICATIONS	10,331	10,331	.....
166	RAPID TECHNOLOGY TRANSITION [RTT]	35,120	35,120	.....
167	F/A-18 SQUADRONS	148,438	151,638	+ 3,200
168	E-2 SQUADRONS	19,011	23,011	+ 4,000
169	FLEET TELECOMMUNICATIONS (TACTICAL)	26,894	31,894	+ 5,000
170	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER [TMPC]	10,587	14,387	+ 3,800
171	INTEGRATED SURVEILLANCE SYSTEM	23,464	23,464	.....
172	AMPHIBIOUS TACTICAL SUPPORT UNITS	4,357	4,357	.....
173	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	50,750	50,750	.....
174	CRYPTOLOGIC DIRECT SUPPORT	1,519	1,519	.....
175	ELECTRONIC WARFARE [EW] READINESS SUPPORT	39,398	39,398	.....
176	HARM IMPROVEMENT	14,207	14,207	.....
177	TACTICAL DATA LINKS	28,854	28,854	.....
178	SURFACE ASW COMBAT SYSTEM INTEGRATION	32,877	32,877	.....
179	MK-48 ADCAP	26,234	26,234	.....
180	AVIATION IMPROVEMENTS	133,611	112,161	- 21,450
181	NAVY SCIENCE ASSISTANCE PROGRAM	3,535	3,535	.....
182	OPERATIONAL NUCLEAR POWER SYSTEMS	74,229	74,229	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
183	MARINE CORPS COMMUNICATIONS SYSTEMS	245,298	234,398	- 10,900
184	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	100,424	85,124	- 15,300
185	MARINE CORPS COMBAT SERVICES SUPPORT	19,466	21,466	+ 2,000
186	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS [MIP]	20,316	20,316	.....
187	TACTICAL AIM MISSILES	912	912	.....
188	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE [AMRAAM]	2,633	2,633	.....
189	JOINT HIGH SPEED VESSEL [JHSV]	3,586	3,586	.....
193	TECHNICAL RECONNAISSANCE AND SURVEILLANCE .....	.....	.....	.....
194	SATELLITE COMMUNICATIONS (SPACE)	422,268	422,268	.....
195	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES	63,563	63,563	.....
196	INFORMATION SYSTEMS SECURITY PROGRAM	25,934	25,934	.....
197	JOINT COMMAND AND CONTROL PROGRAM [JC2] .....	.....	.....	.....
198	JOINT COMMAND AND CONTROL PROGRAM [JC2] .....	.....	.....	.....
199	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES [CANES]	8,375	8,375	.....
201	COBRA JUDY	36,527	36,527	.....
202	NAVY METEOROLOGICAL AND OCEAN SENSORS—SPACE [METOC]	63,878	63,878	.....
203	JOINT MILITARY INTELLIGENCE PROGRAMS	4,435	4,435	.....
204	TACTICAL UNMANNED AERIAL VEHICLES	35,212	8,912	- 26,300
205	ENDURANCE UNMANNED AERIAL VEHICLES .....	.....	.....	.....
206	AIRBORNE RECONNAISSANCE SYSTEMS .....	.....	49,000	+ 49,000
207	MANNED RECONNAISSANCE SYSTEMS	19,263	19,263	.....
208	DISTRIBUTED COMMON GROUND SYSTEMS/SURFACE SYSTEMS ..	8,377	8,377	.....
209	DISTRIBUTED COMMON GROUND SYSTEMS/SURFACE SYSTEMS ..	16,665	16,665	.....
210	RQ-4 UAV	529,250	529,250	.....
211	MQ-8 UAV	10,665	10,665	.....
212	RQ-11 UAV	512	512	.....
213	RQ-7 UAV	934	934	.....
214	SMALL (LEVEL 0) TACTICAL UAS [STUASLO]	26,209	26,209	.....
215	SMALL (LEVEL 0) TACTICAL UAS [STUASLO]	18,098	12,710	- 5,388
216	AERIAL COMMON SENSOR [ACS] .....	.....	.....	.....
217	EP-3E REPLACEMENT [EPX] .....	.....	.....	.....
218	MODELING AND SIMULATION SUPPORT	8,158	8,158	.....
219	DEPOT MAINTENANCE (NON-IF)	18,649	18,649	.....
220	AVIONICS COMPONENT IMPROVEMENT PROGRAM	3,250	4,250	+ 1,000
221	INDUSTRIAL PREPAREDNESS	46,173	52,173	+ 6,000
222	MARITIME TECHNOLOGY (MARITECH) .....	.....	2,400	+ 2,400
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	2,831,810	2,824,372	- 7,438
	CLASSIFIED PROGRAMS	1,284,901	1,185,001	- 99,900
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY	17,693,496	17,693,981	+ 485

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
1	University Research Initiatives	108,679	113,679	+ 5,000
	Center for Assured Critical Application and Infrastructure Security .....	.....	.....	+ 4,000
	Spin-Torque Effect Research for MRAM .....	.....	.....	+ 1,000
3	Defense Research Sciences	429,767	436,967	+ 7,200
	Human Neural Cell-based Biosensor .....	.....	.....	+ 1,200

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	ONAMI Nanoelectronics, Nanometrology, and Nanobiotechnology Initiative			+ 3,000
	Texas Microfactory			+ 3,000
4	Power Projection Applied Research	98,150	120,150	+ 22,000
	Directed Energy Development and Test			+ 10,000
	Aging Military Aircraft Fleet Support			+ 2,000
	Guidance, Navigation, Control, and Targeting System			+ 7,000
	High Energy Conventional Energetics			+ 1,000
	Millimeter Wave Imaging			+ 2,000
5	Force Protection Applied Research	107,448	159,948	+ 52,500
	Alternative Energy			+ 40,000
	Advanced Simulation Tools for Aircraft Structures Made of Composite Materials			+ 1,000
	Anthropomorphic Test Drive Sensors			+ 1,500
	Fuel Efficient, High Specific Power Engine for USVs			+ 2,500
	Integration of Electro-kinetic Weapons into Next Generation Navy Ships			+ 2,000
	Naval Port Security System			+ 5,500
6	Marine Corps Landing Force Technology	43,776	45,276	+ 1,500
	Light Weight Water Resistant Body Armor for Special Operations			+ 1,500
7	Materials, Electronics and Computer Technology			+ 2,000
	Infrared Materials Laboratories			+ 2,000
8	Common Picture Applied Research	70,168	73,668	+ 3,500
	Cosite Interference Mitigation Suite			+ 1,500
	Network-centric Communications Using All-digital Radio Frequency Systems			+ 2,000
9	Warfighter Sustainment Applied Research	113,724	129,924	+ 16,200
	Advanced Composite Maritime Manufacturing			+ 1,500
	Fuel and Energy Laboratory			+ 1,000
	Managing and Extending DoD Asset Lifecycles			+ 2,000
	Nanotechnology for Anti-Reverse Engineering			+ 2,000
	Neural Control of External Devices (Limb Movement)			+ 1,500
	Polymer Science Research and Development			+ 5,200
	Productization of Anti-fouling and Fouling Release Coating Systems			+ 3,000
11	Ocean Warfighting Environment Applied Research	49,491	53,491	+ 4,000
	Ellipsoidal Unmanned Underwater Vehicle			+ 2,000
	Littoral Battlespace Sensing—UUV			+ 2,000
13	Undersea Warfare Applied Research	69,186	73,186	+ 4,000
	Turbulence Research Facility			+ 4,000
14	Mine and Expeditionary Warfare Applied Research	36,833	40,333	+ 3,500
	Inland Water Quality and Desalination Program			+ 2,000
	Virtual Onboard Analyst for Multi-Sensor Mine Detection			+ 1,500
15	Power Projection Advanced Technology	117,908	125,908	+ 8,000
	Countermine LIDAR UAV-based System			+ 2,000
	Smart Instrument Development for the Magdalena Ridge Observatory			+ 6,000
16	Force Protection Advanced Technology	61,877	86,477	+ 24,600
	Advanced Ship Self Defense Technology Testing			+ 6,100
	Advanced Technology for Networked Autonomous Unmanned Systems			+ 2,000
	Formable Textile For Complex Shaped Aerospace Composite Structures			+ 2,000
	High Temperature Fuel Cells			+ 3,000
	M65 Bismaleimide Carbon Fiber Prepreg			+ 3,500
	Mobile Laser Deposition Work Cell			+ 3,000
	Rare Earth Alternatives for Permanent Magnet Motors			+ 5,000
17	Common Picture Advanced Technology	96,720	103,720	+ 7,000
	4-D Data Fusion and Visualization			+ 2,000
	Intelligent Decision Exploration			+ 5,000
19	Electromagnetic Systems Advanced Technology	82,143	101,143	+ 19,000
	Hawaii Surveillance Initiative			+ 19,000
20	USMC Advanced Technology Demonstration [ATD]	115,089	122,089	+ 7,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	MEMS Microdetonator Packaging Technology for Advanced DOD Weapons			+ 3,000
	Navy Nanotechnology Fuze-on-a-Chip			+ 4,000
22	Warfighter Protection Advanced Technology	18,076	31,476	+ 13,400
	Hearing Restoration Through Cellular Regeneration			+ 3,000
	In-Field Body Temperature Conditioner			+ 3,000
	Navy Special Warfare Performance and Injury Prevention Program for SBT 22			+ 2,400
	Silicon Nanofiber Medical Devices for the Warfighter			+ 5,000
27	Aviation Survivability	9,480	16,480	+ 7,000
	AMTC Research and Development Riverine Command Boat			+ 5,000
	Intelligent Autonomy Technology Transition/Intelligence Gathering Uninhabited System			+ 2,000
33	Surface Ship Torpedo Defense	57,796	48,796	- 9,000
	Milestone B delay			- 9,000
35	Shipboard System Component Development	51	17,051	+ 17,000
	Advanced Fluid Controls for Shipboard Applications			+ 4,500
	DDG-51 Hybrid Drive System			+ 12,500
41	Advanced Submarine System Development	608,566	584,766	- 23,800
	Battery Research Initiative			+ 3,000
	CISRT Enabling Materials Technology			+ 2,000
	Controllable Shock Absorber for Advanced Submarine Weapon Shock Mitigation			+ 3,000
	Development of Hybrid Multi-functional Composites for Submarine Structures			+ 4,000
	Quiet Drive Advanced Rotary Actuator			+ 3,000
	Submarine Payload Integration			+ 8,000
	Wave Energy Conversion for Persistent Surveillance and Communications			+ 2,500
	Execution delays			- 49,300
43	Ship Concept Advanced Design	17,883	18,883	+ 1,000
	Composite Surface Ship Louvers			+ 1,000
44	Ship Preliminary Design & Feasibility Studies	1,796	10,796	+ 9,000
	Bow Lifting Body Ship Research			+ 9,000
46	Advanced Surface Machinery Systems	5,459	21,459	+ 16,000
	Fan Coil Assembly of the Future			+ 2,500
	High Efficiency Power Electronics Module			+ 2,500
	Hybrid Propulsion/Power Generation for Increased Fuel Efficiency for Surface Combatants			+ 8,000
	Navy Single Engine Cruise			+ 3,000
48	Littoral Combat Ship (LCS)	226,288	199,388	- 26,900
	LCS Axial Flow High Power Density Waterjets			+ 3,500
	NLOS-LS termination			- 15,400
	Savings from accelerated DT			- 15,000
51	Marine Corps Assault Vehicles	242,765	222,265	- 20,500
	Expeditionary Fighting Vehicle			- 204,000
	Termination Liability			+ 183,500
52	Marine Corps Ground Combat/Support System	40,505	33,203	- 7,302
	Decision and Energy Reduction Tool			+ 2,000
	Expeditionary Capabilities Laboratory			+ 7,000
	JLTV EMD contract award delay			- 16,302
56	Environmental Protection	20,207	22,307	+ 2,100
	Graywater Treatment Technology			+ 1,100
	Internet-Based Installation Environmental Management Information System			+ 1,000
57	Navy Energy Program	30,403	34,403	+ 4,000
	High Density Energy Storage			+ 4,000
58	Facilities Improvement	3,746	6,746	+ 3,000
	Puget Sound Baseline Monitoring/Intrusion Detection System			+ 2,000
	UPSIDE Extension to Virtual Perimeter Monitoring System			+ 1,000
60	Navy Logistic Productivity	4,139	10,139	+ 6,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Hawaii Event Response Command Center			+ 3,000
	Real-Time Tactical Intelligence Collection System			+ 3,000
73	Directed Energy and Electric Weapon Systems		10,500	+ 10,500
	Global Law Enforcement Support for Counter-Narcotics ...			+ 3,000
	High Power Laser Technologies Initiative			+ 2,000
	Naval Electronic Warfare Technology Integration Center ...			+ 3,000
	Research Airship			+ 2,500
87	Warfare Support System	3,733	9,733	+ 6,000
	Tunable MicroRadio for Military Applications			+ 6,000
90A	Naval Airship		10,000	+ 10,000
	Military Propulsion Advanced Program			+ 10,000
97	Next Generation Jammer [NGJ]	120,602	90,602	- 30,000
	Technology development contract delay			- 30,000
98	Joint Tactical Radio System—Navy (JTRS—Navy)	687,723	607,723	- 80,000
	Airborne Maritime Fixed: unjustified increase			- 80,000
101	LPD-17 Class Systems Integration	1,373	41,373	+ 40,000
	Gulf Coast Land Based Test Facility			+ 40,000
102	Small Diameter Bomb [SDB]	44,091	26,991	- 17,100
	Joint Strike Fighter program delays			- 17,100
106	Advanced Above Water Sensors	274,371	277,371	+ 3,000
	Electronic Periscope Detection Radar			+ 3,000
107	SSN-688 and Trident Modernization	118,897	117,697	- 1,200
	TB-33 Thinline Towed Array			+ 3,500
	Communications at Speed and Depth			- 4,700
111	New Design SSN	155,489	161,489	+ 6,000
	Common Command and Control System Module			+ 6,000
112	Submarine Tactical Warfare System	50,537	69,037	+ 18,500
	Artificial Intelligence-Based Combat System			+ 5,000
	Organic Submarine Airborne ISRT Deployment			+ 4,500
	SSGN Weapon Launch Technology Insertion			+ 2,000
	Submarine Environment for Evaluation and Develop- ment			+ 4,000
	Weapon Acquisition and Firing System			+ 3,000
113	Ship Contract Design/ Live Fire T&E	153,686	170,686	+ 17,000
	Automated Fiber Optic Manufacturing Initiative			+ 4,000
	Full Ship Shock Trial Alternative: transfer from line 136 ..			+ 13,000
120	Ship Self Defense (Detect & Control)	45,930	52,430	+ 6,500
	Persistent Surveillance Wave Power Buoy System			+ 3,500
	Wind-Powered Autonomous Unmanned Surface Vessel			+ 3,000
121	Ship Self Defense (Engage: Hard Kill)	5,860	17,860	+ 12,000
	Laser Phalanx			+ 12,000
124	Medical Development	12,337	23,337	+ 11,000
	Composite Tissue Transplantation for Combat Wound Re- pair			+ 2,000
	Treatment and Rehabilitation Solutions for Battlefield Cranio-Facial Wounds			+ 5,000
	Vision Restoration using Wireless Retinal Implants			+ 4,000
126	Joint Strike Fighter [JSF]—EMD	667,916	588,916	- 79,000
	Defer Block 4 software			- 29,000
	Underexecution of test program			- 50,000
127	Joint Strike Fighter [JSF]	707,791	678,791	- 29,000
	Defer Block 4 software			- 29,000
129	Information Technology Development	28,280	57,405	+ 29,125
	Condition-based Maintenance Enabling Technologies Pro- gram			+ 2,550
	Cyber Engineering and Technology Development Center Project			+ 2,000
	Digitization, Integration, and Analyst Access of NCIS Files			+ 1,275
	Integration of Logistics Information for Knowledge Projec- tion and Readiness Assessment Program			+ 1,700
	METOC Integrated Network-Centric Technology Systems ...			+ 3,000
	Production Efficiency Program			+ 2,100

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Southern Maryland Defense Facility Fiber Connectivity Initiative			+ 7,500
	Supply Chain Logistics Capability at the ABL NIROP			+ 4,000
	SPAWAR Systems Center [SSC/ITC], Atlantic New Orleans, Navy			+ 5,000
130	Navy Integrated Military Human Resources System [N-IMHRS]	27,444	15,444	- 12,000
	Reduction to pre-development activities			- 12,000
136	DDG-1000	549,241	536,241	- 13,000
	Full Ship Shock Trial Alternative: transfer to line 113			- 13,000
142	Major T&E Investment	37,522	41,522	+ 4,000
	Surveillance and Strike Mission Radar Test Bed			+ 4,000
146	Technical Information Services	662	18,162	+ 17,500
	Hawaii Technology Development Venture			+ 12,000
	Integrated Manufacturing Enterprise			+ 3,500
	Virtual Business Accelerator for the Silicon Prairie			+ 2,000
162	Strategic Sub & Weapons System Support	81,184	76,684	- 4,500
	Nuclear Security Sensor System			+ 4,500
	Virtual Maintenance Engineering Platform for SSGN Voyage Repair			+ 1,000
	Conventional Trident Modification			- 10,000
167	F/A-18 Squadrons		3,200	+ 3,200
	High Performance Military Aircraft Noise Reduction			+ 3,200
168	E-2 Squadrons	19,011	23,011	+ 4,000
	Airborne High Gain UHF ESA			+ 4,000
169	Fleet Telecommunications (Tactical)	26,894	31,894	+ 5,000
	Virtual Secure Enclave			+ 5,000
170	Tomahawk and Tomahawk Mission Planning Center [TMPC]	10,587	14,387	+ 3,800
	Tomahawk Cost Reduction Initiative			+ 3,800
180	Aviation Improvements	133,611	112,161	- 21,450
	Solid State Arc Fault Detection with Arc Location System			+ 1,550
	Wireless Sensors for Navy Aircraft			+ 4,000
	F-135 CIP			- 27,000
183	Marine Corps Communications Systems	245,298	234,398	- 10,900
	Enhance STRIKE Functionality and Integrate Actionable Intelligence into National Intelligence Systems			+ 1,500
	Joint Cooperative Target Identification—Ground			- 12,400
184	Marine Corps Ground Combat/Supporting Arms Systems	100,424	85,124	- 15,300
	Inertial North Finding for Handheld Sensors			+ 1,500
	IUID Web-Based Tracking and Accountability Software			+ 4,000
	Marine Personnel Carrier Performance Feedback and Assessment System			+ 2,000
	LAV-AT contract delay			- 4,000
	Marine Personnel Carrier program deferral			- 18,800
185	Marine Corps Combat Services Support	19,466	21,466	+ 2,000
	Joint Modular Intermodal Container			+ 2,000
204	Tactical Unmanned Aerial Vehicles	35,212	8,912	- 26,300
	Marinized UAS			- 26,300
206	Airborne Reconnaissance Systems		49,000	+ 49,000
	EP-3/SPA systems development			+ 45,000
	Fusion Exploitation Algorithm Targeting High Altitude Reconnaissance			+ 4,000
215	Small (Level 0) Tactical UAS [STUASLO]	18,098	12,710	- 5,388
	STUAS Lite termination			- 5,388
220	Avionics Component Improvement Program	3,250	4,250	+ 1,000
	Avionics Research and Development Laboratory			+ 1,000
221	Industrial Preparedness	46,173	52,173	+ 6,000
	Life Extension of Navy Weapon System Structures through AMP Technologies			+ 2,000
	Out of Autoclave Composite Wing Project			+ 3,000
	Rapid Casting Technology for Naval Castings			+ 1,000
222	Maritime Technology (MARITECH)		2,400	+ 2,400

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Navy Ordnance Real-Time Location System Using Passive Radio Frequency Identification			+ 2,400
	CLASSIFIED	1,284,901	1,185,001	- 99,900
	Classified Adjustment			- 99,900

Airborne Maritime Fixed Radio.—The budget request includes \$407,334,000 for continued development of the Airborne Maritime Fixed [AMF] Joint Tactical Radio System, which includes a substantial increase for “requirements planning and risk reduction.” Although there have been some changes to the program schedule, neither the Government nor the contractor has identified specific deficiencies which would indicate a need for an additional \$80,000,000 in fiscal year 2011. The Committee notes that the independent cost estimate performed for the initiation of the AMF program indicated that development of the radio could take additional time beyond initial program office estimates. This would seem to indicate that any additional funds for the program would be required after fiscal year 2011. Consequently, the recommendation reduces the AMF program by \$80,000,000 due to lack of justification.

Small Diameter Bomb.—The budget request includes \$44,091,000 for Navy costs relating to the Small Diameter Bomb II development project. These funds are primarily intended to integrate the weapons on the Navy and Marine Corps F-35 Joint Strike Fighter. The Committee is perplexed at the decision to defer Small Diameter Bomb integration on the existing F/A-18 aircraft to the indefinite future, especially in light of the Air Force strategy to equip the F-15 with the weapon prior to the F-35. The recommendation includes a reduction of \$17,100,000 because of delays in the F-35 program, and supports the use of remaining funds for other necessary activities, such as bomb rack development, ship suitability efforts, studies and analysis, and other miscellaneous costs.

Expeditionary Fighting Vehicle.—The budget request includes \$242,765,000 for development of the Expeditionary Fighting Vehicle. In 2006, the initial prototypes of the vehicle demonstrated unacceptable reliability, which resulted in a restructuring of the program and the addition of seven new prototype vehicles. The Marine Corps is currently receiving the new prototypes, and reliability growth testing is scheduled to proceed through the remainder of 2010.

After the investment of nearly \$2,900,000,000 in research and development funds over more than two decades, the Committee believes that further investment in the Expeditionary Fighting Vehicle is not warranted if improved performance of the new prototypes cannot be demonstrated. The Committee further notes that if the program is successful in demonstrating improved performance, the program would likely continue to face challenges in the areas of cost, schedule, weight, and other factors.

The recommendation provides \$38,765,000 for the Expeditionary Fighting Vehicle, an amount sufficient to carry the program through vehicle acceptance and reliability growth testing. The recommendation also provides \$183,500,000 for estimated termination

costs should the program be cancelled. The Committee directs the Secretary of the Navy to provide regular updates to the congressional defense committees during the course of reliability growth testing in order to inform further deliberations on the program.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, AIR FORCE

Appropriations, 2010	\$28,121,985,000
Budget estimate, 2011	27,247,302,000
Committee recommendation	26,761,621,000

The Committee recommends an appropriation of \$26,761,621,000. This is \$485,681,000 below the budget estimate.

COMMITTEE RECOMMENDED PROGRAM

The following table summarizes the budget estimate for this appropriation, the Committee recommendation, and the Committee recommended adjustments to the budget estimate:

(In thousands of dollars)

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, AIR FORCE			
	BASIC RESEARCH			
1	DEFENSE RESEARCH SCIENCES	350,978	352,978	+ 2,000
2	UNIVERSITY RESEARCH INITIATIVES	136,297	153,397	+ 17,100
3	HIGH ENERGY LASER RESEARCH INITIATIVES	13,198	13,198	.....
	TOTAL, BASIC RESEARCH	500,473	519,573	+ 19,100
	APPLIED RESEARCH			
	MEDICAL DEVELOPMENT			
4	MATERIALS	137,273	170,973	+ 33,700
5	AEROSPACE VEHICLE TECHNOLOGIES	144,699	153,199	+ 8,500
6	HUMAN EFFECTIVENESS APPLIED RESEARCH	87,452	91,952	+ 4,500
7	AEROSPACE PROPULSION	207,049	206,649	- 400
8	AEROSPACE SENSORS	157,497	175,397	+ 17,900
9	SPACE TECHNOLOGY	111,857	121,257	+ 9,400
10	CONVENTIONAL MUNITIONS	61,330	61,330	.....
11	DIRECTED ENERGY TECHNOLOGY	103,596	114,896	+ 11,300
12	COMMAND CONTROL AND COMMUNICATIONS			
13	DOMINANT INFORMATION SCIENCES AND METHODS	117,283	115,783	- 1,500
14	HIGH ENERGY LASER RESEARCH	53,384	53,384	.....
	TOTAL, APPLIED RESEARCH	1,181,420	1,264,820	+ 83,400
	ADVANCED TECHNOLOGY DEVELOPMENT			
15	ADVANCED MATERIALS FOR WEAPON SYSTEMS	33,414	68,614	+ 35,200
16	SUSTAINMENT SCIENCE AND TECHNOLOGY [S&T]	2,935	2,935	.....
17	ADVANCED AEROSPACE SENSORS	44,677	46,677	+ 2,000
18	AEROSPACE TECHNOLOGY DEV/DEMO	53,588	52,588	- 1,000
19	AEROSPACE PROPULSION AND POWER TECHNOLOGY	136,135	140,135	+ 4,000
20	CREW SYSTEMS AND PERSONNEL PROTECTION TECHNOLOGY		2,000	+ 2,000
21	CREW SYSTEMS AND PERSONNEL PROTECTION TECHNOLOGY			
21	ELECTRONIC COMBAT TECHNOLOGY	16,992	16,992	.....
22	ADVANCED SPACECRAFT TECHNOLOGY	83,705	81,615	- 2,090
23	MAUI SPACE SURVEILLANCE SYSTEM [MSSS]	5,899	26,399	+ 20,500
24	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOPMENT	24,814	26,814	+ 2,000
25	CONVENTIONAL WEAPONS TECHNOLOGY	15,755	15,755	.....
26	ADVANCED WEAPONS TECHNOLOGY	17,461	30,961	+ 13,500
27	MANUFACTURING TECHNOLOGY PROGRAM	39,701	46,201	+ 6,500
28	BATTLESPACE KNOWLEDGE DEVELOPMENT & DEMONSTRATION	32,382	39,882	+ 7,500
29	C3I ADVANCED DEVELOPMENT			

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
30	HIGH ENERGY LASER ADVANCED TECHNOLOGY PROGRAM	1,847	1,847	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	509,305	599,415	+ 90,110
	DEMONSTRATION & VALIDATION			
31	INTELLIGENCE ADVANCED DEVELOPMENT	5,019	7,019	+ 2,000
32	PHYSICAL SECURITY EQUIPMENT	3,576	.....	- 3,576
33	GPS III—OPERATIONAL CONTROL SEGMENT .....	.....	381,867	+ 381,867
34	ADVANCED EHF MILSATCOM (SPACE)	351,817	351,817	.....
35	POLAR MILSATCOM (SPACE)	164,232	164,232	.....
36	SPACE CONTROL TECHNOLOGY	45,012	58,012	+ 13,000
37	COMBAT IDENTIFICATION TECHNOLOGY	26,172	26,172	.....
38	NATO RESEARCH AND DEVELOPMENT	4,372	4,372	.....
39	INTERNATIONAL SPACE COOPERATIVE R&D	635	635	.....
40	SPACE PROTECTION PROGRAM [SPP]	8,349	8,349	.....
41	TRANSFORMATIONAL SATCOM [TSAT] .....	.....	.....	.....
42	INTEGRATED BROADCAST SERVICE	20,580	20,580	.....
43	INTERCONTINENTAL BALLISTIC MISSILE	66,745	66,745	.....
44	WIDEBAND GAPFILLER SYSTEM RDT&E (SPACE)	36,123	36,123	.....
45	POLLUTION PREVENTION (DEM/VAL)	2,534	2,534	.....
46	JOINT PRECISION APPROACH AND LANDING SYSTEMS	13,952	13,952	.....
47	NEXT GENERATION BOMMER	198,957	198,957	.....
48	BATTLE MGMT COM & CTRL SENSOR DEVELOPMENT .....	.....	.....	.....
49	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM	22,389	22,389	.....
50	JOINT DUAL ROLE AIR DOMINANCE MISSILE	9,799	9,799	.....
51	REQUIREMENTS ANALYSIS AND MATURATION	34,339	34,339	.....
52	NEXT-GENERATION MILSATCOM TECHNOLOGY DEVELOPMENT .....	.....	.....	.....
53	GROUND ATTACK WEAPONS FUZE DEVELOPMENT	32,513	22,513	- 10,000
54	ALTERNATIVE FUELS	24,064	24,064	.....
55	AUTOMATED AIR-TO-AIR REFUELING	85	85	.....
56	OPERATIONALLY RESPONSIVE SPACE	93,978	138,378	+ 44,400
57	TECH TRANSITION PROGRAM	12,260	12,260	.....
58	NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SAT- ELLITE	325,505	.....	- 325,505
58A	DEFENSE WEATHER SATELLITE SYSTEM [DWSS] .....	.....	50,000	+ 50,000
	TOTAL, DEMONSTRATION & VALIDATION	1,503,007	1,655,193	+ 152,186
	ENGINEERING & MANUFACTURING DEVELOPMENT			
59	GLOBAL BROADCAST SERVICE [GBS]	18,171	18,171	.....
60	NUCLEAR WEAPONS SUPPORT	60,545	65,545	+ 5,000
61	B-1B .....	.....	.....	.....
62	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	8,066	15,066	+ 7,000
63	B-2 ADVANCED TECHNOLOGY BOMBER .....	.....	.....	.....
64	ELECTRONIC WARFARE DEVELOPMENT	89,966	89,966	.....
65	JOINT TACTICAL RADIO	631	631	.....
66	TACTICAL DATA NETWORKS ENTERPRISE	102,941	23,341	- 79,600
67	PHYSICAL SECURITY EQUIPMENT	50	50	.....
68	SMALL DIAMETER BOMB [SDB]	153,505	123,505	- 30,000
69	COUNTERSPACE SYSTEMS	40,276	40,276	.....
70	SPACE SITUATION AWARENESS SYSTEMS	426,525	396,125	- 30,400
71	AIRBORNE ELECTRONIC ATTACK	25,937	25,937	.....
72	SPACE BASED INFRARED SYSTEM [SBIRS] HIGH EMD	530,047	530,047	.....
73	THIRD GENERATION INFRARED SURVEILLANCE [3GIRS] .....	.....	.....	.....
	ALTERNATIVE INFRARED SPACE SYSTEM [AIRSS] .....	.....	.....	.....
74	ARMAMENT/ORDNANCE DEVELOPMENT	6,693	6,693	.....
75	SUBMUNITIONS	1,622	1,622	.....
76	AGILE COMBAT SUPPORT	37,987	37,987	.....
77	LIFE SUPPORT SYSTEMS	10,650	13,150	+ 2,500
78	COMBAT TRAINING RANGES	36,905	36,905	.....
79	INTEGRATED COMMAND & CONTROL APPLICATIONS [IC2A]	10	1,010	+ 1,000
80	INTELLIGENCE EQUIPMENT	1,364	1,364	.....
81	JOINT STRIKE FIGHTER [JSF]	883,773	1,051,210	+ 167,437
82	INTERCONTINENTAL BALLISTIC MISSILE	71,843	71,843	.....
83	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)	30,245	30,245	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
84	RDT&E FOR AGING AIRCRAFT			
85	NEXT GENERATION AERIAL REFUELING AIRCRAFT	863,875	538,875	- 325,000
86	CSAR HH-60 RECAPITALIZATION	12,584		- 12,584
87	CSAR-X RDT&E			
	HH-60 RDT&E			
88	HC/MC-130 RECAP RDT&E	15,536	15,536	
89	JOINT SIAP EXECUTIVE PROGRAM OFFICE			
90	LINK-16 SUPPORT AND SUSTAINMENT			
91	SINGLE INTEGRATED AIR PICTURE [SIAP]	1,832		- 1,832
92	FULL COMBAT MISSION TRAINING	57,393	57,393	
94	JOINT CARGO AIRCRAFT [JCA]	26,407	26,407	
95	CV-22	18,270	18,270	
96	AIRBORNE SENIOR LEADER C3 [SLC3S]	15,826	7,826	- 8,000
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	3,549,475	3,244,996	- 304,479
	RDT&E MANAGEMENT SUPPORT			
97	THREAT SIMULATOR DEVELOPMENT	21,245	21,245	
98	MAJOR T&E INVESTMENT	61,587	66,087	+ 4,500
99	RAND PROJECT AIR FORCE	26,752	26,752	
101	INITIAL OPERATIONAL TEST & EVALUATION	20,665	20,665	
102	TEST AND EVALUATION SUPPORT	759,868	759,868	
103	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	23,551	23,551	
104	SPACE TEST PROGRAM [STP]	47,623	47,623	
105	FACILITIES RESTORATION & MODERNIZATION—TEST & EVAL	46,327	46,327	
106	FACILITIES SUSTAINMENT—TEST AND EVALUATION SUPPORT	27,579	27,579	
107	MULTI-SERVICE SYSTEMS ENGINEERING INITIATIVE	18,901	18,901	
108	ACQUISITION AND MANAGEMENT SUPPORT	24,968	24,968	
109	GENERAL SKILL TRAINING	1,544	1,544	
111	INTERNATIONAL ACTIVITIES	3,764	3,764	
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,084,374	1,088,874	+ 4,500
	OPERATIONAL SYSTEMS DEVELOPMENT			
112	GPS III—OPERATIONAL CONTROL SEGMENT			
113	COMMON VERTICAL LIFT SUPPORT PLATFORM			
114	AIR FORCE INTEGRATED MILITARY HUMAN RESOURCES SYSTEM	43,300	23,300	- 20,000
115	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	42,255	42,255	
117	B-52 SQUADRONS	146,096	141,396	- 4,700
118	AIR-LAUNCHED CRUISE MISSILE [ALCM]	3,631	3,631	
119	B-1B SQUADRONS	33,234	35,234	+ 2,000
120	B-2 SQUADRONS	260,466	260,466	
121	STRAT WAR PLANNING SYSTEM—USSTRATCOM	28,441	28,441	
122	NIGHT FIST—USSTRATCOM	5,359	5,359	
124	ATMOSPHERIC EARLY WARNING SYSTEM			
125	REGION/SECTOR OPERATION CONTROL CENTER MODERNIZATION	23,732	23,732	
126	STRATEGIC AEROSPACE INTELLIGENCE SYSTEM ACTIVITIES	15	15	
127	WARFIGHTER RAPID ACQUISITION PROCESS [WRAP] RAPID TRAN	10,580	10,580	
128	MQ-9 UAV	125,427	155,427	+ 30,000
129	MULTI-PLATFORM ELECTRONIC WARFARE EQUIPMENT	15,574	15,574	
130	A-10 SQUADRONS	5,661	5,661	
131	F-16 SQUADRONS	129,103	129,103	
132	F-15E SQUADRONS	222,677	207,677	- 15,000
133	MANNED DESTRUCTIVE SUPPRESSION	12,937	12,937	
134	F-22 SQUADRONS	576,330	426,330	- 150,000
135	F-35 SQUADRONS	217,561		- 217,561
136	TACTICAL AIM MISSILES	6,040	6,040	
137	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE [AMRAAM]	62,922	47,822	- 15,100
138	JOINT HELMET MOUNTED CUEING SYSTEM [JHMCS]	2,407	2,407	
139	COMBAT RESCUE AND RECOVERY	944	944	
140	COMBAT RESCUE—PARARESCUE	2,921	2,921	

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
141	AF TENCAP	11,648	11,648	.....
142	PRECISION ATTACK SYSTEMS PROCUREMENT	3,017	3,017	.....
143	COMPASS CALL	20,652	20,652	.....
144	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	147,396	120,626	- 26,770
145	CSAF INNOVATION PROGRAM (OR ISR INNOVATIONS) .....	.....	.....	.....
146	JOINT AIR-TO-SURFACE STANDOFF MISSILE [JASSM]	20,000	20,000	.....
147	AIR AND SPACE OPERATIONS CENTER [AOC]	93,102	93,102	.....
148	CONTROL AND REPORTING CENTER [CRC]	58,313	58,313	.....
149	AIRBORNE WARNING AND CONTROL SYSTEM [AWACS]	239,755	229,755	- 10,000
150	TACTICAL AIRBORNE CONTROL SYSTEMS .....	.....	.....	.....
151	ADVANCED COMMUNICATIONS SYSTEMS	67,532	67,532	.....
.....	EVALUATION AND ANALYSIS PROGRAM .....	.....	.....	.....
153	COMBAT AIR INTELLIGENCE SYSTEM ACTIVITIES	3,310	3,310	.....
154	THEATER BATTLE MANAGEMENT [TBM] C4I	15,170	15,170	.....
155	FIGHTER TACTICAL DATA LINK	85,492	85,492	.....
156	BOMBER TACTICAL DATA LINK .....	.....	.....	.....
157	C2ISR TACTICAL DATA LINK	1,584	1,584	.....
158	COMMAND AND CONTROL [C2] CONSTELLATION	24,229	24,229	.....
159	JOINT SURVEILLANCE AND TARGET ATTACK RADAR SYSTEM	168,917	168,917	.....
160	SEEK EAGLE	19,263	19,263	.....
161	USAF MODELING AND SIMULATION	21,638	23,538	+ 1,900
162	WARGAMING AND SIMULATION CENTERS	6,020	6,020	.....
163	DISTRIBUTED TRAINING AND EXERCISES	2,863	2,863	.....
164	MISSION PLANNING SYSTEMS	79,112	80,112	+ 1,000
165	INFORMATION WARFARE SUPPORT	2,294	2,294	.....
.....	SPECIAL EVALUATION SYSTEM .....	.....	.....	.....
.....	NATIONAL AIR INTELLIGENCE CENTER .....	.....	.....	.....
166	CYBER COMMAND ACTIVITIES	1,117	1,117	.....
173	SPACE SUPERIORITY INTELLIGENCE	10,006	10,006	.....
174	E-4B NATIONAL AIRBORNE OPERATIONS CENTER [NAOC]	12,532	12,532	.....
175	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	78,784	68,984	- 9,800
176	INFORMATION SYSTEMS SECURITY PROGRAM	140,017	140,017	.....
177	GLOBAL COMBAT SUPPORT SYSTEM	3,393	3,393	.....
178	GLOBAL COMMAND AND CONTROL SYSTEM	3,055	5,212	+ 2,157
179	JOINT COMMAND AND CONTROL PROGRAM [JC2]	2,157	.....	- 2,157
180	MILSATCOM TERMINALS	186,582	306,282	+ 119,700
.....	SPECIAL ACTIVITIES .....	.....	.....	.....
182	AIRBORNE SIGINT ENTERPRISE	149,268	144,268	- 5,000
.....	ADVANCED GEOSPATIAL INTELLIGENCE .....	.....	.....	.....
185	GLOBAL AIR TRAFFIC MANAGEMENT [GATM]	5,708	5,708	.....
186	CYBER SECURITY INITIATIVE	2,030	2,030	.....
187	DOD CYBER CRIME CENTER	279	279	.....
188	SATELLITE CONTROL NETWORK (SPACE)	21,667	21,667	.....
189	WEATHER SERVICE	32,373	32,373	.....
190	AIR TRAFFIC CONTROL, APPROACH, & LANDING SYSTEM [ATC]	33,268	36,268	+ 3,000
191	AERIAL TARGETS	63,573	58,573	- 5,000
194	SECURITY AND INVESTIGATIVE ACTIVITIES	469	469	.....
196	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	40	40	.....
198	NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT)	165,936	165,936	.....
199	NAVSTAR GLOBAL POSITIONING SYSTEM (SPACE AND CONTROL)	34,471	34,471	.....
201	SPACE AND MISSILE TEST AND EVALUATION CENTER	4,572	4,572	.....
202	SPACE WARFARE CENTER	2,929	2,929	.....
203	SPACELIFT RANGE SYSTEM (SPACE)	9,933	9,933	.....
204	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS	1,254	1,254	.....
205	ENDURANCE UNMANNED AERIAL VEHICLES .....	.....	.....	.....
206	AIRBORNE RECONNAISSANCE SYSTEMS	168,963	94,863	- 74,100
207	MANNED RECONNAISSANCE SYSTEMS	15,337	15,337	.....
208	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	93,398	93,398	.....
209	PREDATOR UAV [JMIP]	28,913	23,913	- 5,000
210	RQ-4 UAV	251,318	220,318	- 31,000
.....	GLOBAL HAWK UAV .....	.....	.....	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
211	NETWORK-CENTRIC COLLABORATIVE TARGET (TIARA)	7,267	7,267	.....
212	GPS III SPACE SEGMENT	828,171	446,304	- 381,867
	GPS CONTROL SEGMENT [OCX] .....	.....	.....	.....
213	JSPOC MISSION SYSTEM	132,706	138,706	+ 6,000
214	INTELLIGENCE SUPPORT TO INFORMATION WARFARE	5,512	5,512	.....
215	NUDET DETECTION SYSTEM (SPACE)	72,199	72,199	.....
216	NATIONAL SECURITY SPACE OFFICE	10,630	10,630	.....
217	SPACE SITUATION AWARENESS OPERATIONS	43,838	43,838	.....
218	INFORMATION OPS TECHNOLOGY INTEGRATION & TOOL DEVELOPMENT	21,912	21,912	.....
219	SHARED EARLY WARNING [SEW]	2,952	2,952	.....
220	C-130 AIRLIFT SQUADRON	113,107	48,107	- 65,000
221	C-5 AIRLIFT SQUADRONS	58,990	58,990	.....
222	C-17 AIRCRAFT	177,212	162,212	- 15,000
223	C-130J PROGRAM	26,770	26,770	.....
224	LARGE AIRCRAFT IR COUNTERMEASURES [LAIRCM]	17,227	17,227	.....
225	KC-135S	20,453	20,453	.....
226	KC-10S	56,669	56,669	.....
227	OPERATIONAL SUPPORT AIRLIFT	4,988	4,988	.....
228	C-STOL AIRCRAFT	1,283	4,283	+ 3,000
229	AIR MOBILITY TACTICAL DATA LINK .....	.....	.....	.....
230	SPECIAL TACTICS/COMBAT CONTROL	7,345	7,345	.....
231	DEPOT MAINTENANCE (NON-IF)	1,514	1,514	.....
232	FACILITIES RESTORATION & MODERNIZATION—LOGISTICS ACQUISITION AND MANAGEMENT SUPPORT .....	.....	.....	.....
	INDUSTRIAL PREPAREDNESS .....	.....	.....	.....
234	LOGISTICS INFORMATION TECHNOLOGY [LOGIT]	227,614	227,614	.....
235	SUPPORT SYSTEMS DEVELOPMENT	6,141	49,241	+ 43,100
235A	AIR FORCE RECRUITING INFORMATION SUPPORT SYSTEM .....	.....	5,100	+ 5,100
236	OTHER FLIGHT TRAINING	667	667	.....
237	JOINT NATIONAL TRAINING CENTER	9	9	.....
238	TRAINING DEVELOPMENTS .....	.....	.....	.....
239	OTHER PERSONNEL ACTIVITIES	116	116	.....
240	JOINT PERSONNEL RECOVERY AGENCY	6,107	6,107	.....
241	SERVICE-WIDE SUPPORT (NOT OTHERWISE ACCOUNTED FOR) .....	.....	.....	.....
242	CIVILIAN COMPENSATION PROGRAM	7,811	7,811	.....
243	PERSONNEL ADMINISTRATION	11,179	11,179	.....
244	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT	49,816	49,816	.....
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	6,512,467	5,676,369	- 836,098
	CLASSIFIED PROGRAMS	12,406,781	12,712,381	+ 305,600
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, AIR FORCE	27,247,302	26,761,621	- 485,681

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Program element title	Fiscal year 2011 base	Committee recommendation	Change from budget estimate
1	Defense Research Sciences	350,978	352,978	+ 2,000
	Development and Validation of Advanced Design Technologies for Hypersonic Research .....	.....	.....	+ 2,000
2	University Research Initiatives	136,297	153,397	+ 17,100
	ARL-ONAMI Center for Nanoarchitectures for Enhanced Performance .....	.....	.....	+ 2,000
	BattleSpace: Reducing Military Decision Cycles, Phase II .....	.....	.....	+ 2,500

[In thousands of dollars]

Line	Program element title	Fiscal year 2011 base	Committee recommendation	Change from budget estimate
	Computer Network Attack/Computer Network Defense			+ 1,000
	Cyber Innovation Center—Research and Development Seed Fund			+ 5,000
	Cyberattack Forecasting			+ 2,600
	Institute for Advanced Energy Studies			+ 4,000
4	Materials	137,273	170,973	+ 33,700
	Accelerated Insertion of Advanced Materials and Certification for Military Aircraft Structure Material Substitution and Repair			+ 2,500
	Advanced Aerospace Carbon Foam Heat Exchangers			+ 4,000
	Air Force Minority Leaders Program			+ 3,000
	Aircraft Fatigue Modeling and Simulation			+ 4,000
	Conducting Polymer Stress and Polymer Damage Sensors for Composites			+ 1,800
	Energy Efficiency, Recovery, and Generation			+ 1,000
	LGX High Temperature Acoustic Wave Sensors for Monitoring of Aerospace Components			+ 3,000
	Nanocomposites for Lightning Protection of Composite Airframe Structures			+ 3,000
	ONAMI Safer Nanomaterials and Nanomanufacturing			+ 4,000
	Partnership for Emerging Energy Technologies			+ 2,000
	Wyoming Army National Guard Joint Training and Experimentation Center [JTEC]			+ 5,400
5	Aerospace Vehicle Technologies	144,699	153,199	+ 8,500
	UAV Sensor and Maintenance Development Center			+ 5,000
	Unmanned Aerial System Exploitation			+ 3,500
6	Human Effectiveness Applied Research	87,452	91,952	+ 4,500
	Vigilance Assistance in Screening, Surveillance, and Reconnaissance [VAISSAR]			+ 4,500
7	Aerospace Propulsion	207,049	206,649	- 400
	AFRL Edwards Rocket Test Stand 2-A Improvements			+ 3,000
	In-Space Solar Electric Resource Transport Development			+ 1,000
	Military Base Energy Security Demonstration Project			+ 2,000
	Renewable Aromatic Jet Fuel Components for DOD Energy Needs			+ 3,600
	Unjustified program growth			- 10,000
8	Aerospace Sensors	157,497	175,397	+ 17,900
	Advanced Integrated Microsystems for Military Systems [AIMMS]			+ 5,000
	Gallium Nitride Materials for High Performance Devices			+ 3,500
	Information Quality Tools for Persistent Surveillance Data Sets			+ 2,000
	On-Chip Integrated Photonic Polymer Transceiver			+ 5,000
	Random Obfuscating Compiler Anti-Tamper Software			+ 2,400
9	Space Technology	111,857	121,257	+ 9,400
	Nuclear Test Monitoring Seismic Research			+ 5,000
	Reconfigurable Electronics and Non-Volatile Memory Research			+ 900
	Space Plasma Research Augmentation			+ 2,000
	Technology Research and Innovation Outreach for Space			+ 1,500
11	Directed Energy Technology	103,596	114,896	+ 11,300
	Re-alignment of funding for ground optical imaging research and technology			+ 11,300
13	Dominant Information Sciences and Methods	117,283	115,783	- 1,500
	Transfer to Line 11			- 1,500
15	Advanced Materials for Weapon Systems	33,414	68,614	+ 35,200

[In thousands of dollars]

Line	Program element title	Fiscal year 2011 base	Committee recommendation	Change from budget estimate
	Transfer to Line 11			- 1,000
	Advanced Aircraft Maintenance Technologies			+ 2,000
	Aircraft Evaluation Readiness Initiative			+ 2,600
	Alaska Industrial Supercritical Water			+ 1,000
	KC-135 Structural Teardown Examination			+ 2,000
	Metals Affordability Initiative			+ 10,000
	Military Waste-to-Energy Project using the Hydro-Thermal Energy Conversion Process			+ 5,000
	Science, Technology, Academic, Research, Outreach Program			+ 4,100
	Sewage-Derived Biofuels Project			+ 4,400
	Silicon Carbide Material Manufacturing Initiative			+ 5,100
17	Advanced Aerospace Sensors	44,677	46,677	+ 2,000
	SIC RF Power for Airborne Avionics & Radar			+ 2,000
18	Aerospace Technology Dev/Demo	53,588	52,588	- 1,000
	Transfer to Line 11			- 1,000
19	Aerospace Propulsion and Power Technology	136,135	140,135	+ 4,000
	Transfer to Line 11			- 2,000
	Algal Biofuels for Aviation			+ 2,000
	Silicon Carbide Power Modules for the F-35 Joint Strike Fighter			+ 4,000
20	Crew Systems and Personnel Protection Technology		2,000	+ 2,000
	Joint Strike Fighter Authentic Tactical Fighting System			+ 2,000
22	Advanced Spacecraft Technology	83,705	81,615	- 2,090
	Transfer to Line 11			- 3,590
	Secure Supply of High-Purity Carbon Nanotube Solutions			+ 1,500
23	Maui Space Surveillance System [MSSS]	5,899	26,399	+ 20,500
	Program increase			+ 7,500
	Flash Hyper-Dimensional Imaging System for Space Situational Awareness and Ballistic Missile Defense			+ 4,000
	PanSTARRS			+ 9,000
24	Human Effectiveness Advanced Technology Development ...	24,814	26,814	+ 2,000
	PhasorBIRD Tracker Development			+ 2,000
26	Advanced Weapons Technology	17,461	30,961	+ 13,500
	Counter-MANPAD RF Amplifier			+ 2,000
	LIDAR Applications for Vehicles with Analysis			+ 6,500
	Real-time Optical Surveillance Applications			+ 5,000
27	Manufacturing Technology Program	39,701	46,201	+ 6,500
	Advanced Development of Aerospace Fabrication and Assembly Technologies			+ 2,000
	Next Generation Casting Initiative			+ 2,000
	Rapid Automated Processing of Advanced Low Observables [RAPALO]			+ 2,000
	Washington Aerospace Training and Research Center			+ 500
28	Battlespace Knowledge Development and Demonstration ...	32,382	39,882	+ 7,500
	Computer and Communications Network Vulnerability Solutions [CCNVS]			+ 4,500
	Cyber Center for Innovation and Education			+ 3,000
31	Intelligence Advanced Development	5,019	7,019	+ 2,000
	Collaboration Gateway			+ 2,000
32	Physical Security Equipment	3,576		- 3,576
	Unjustified program request			- 3,576
33	Global Positioning System III—Operational Control Segment		381,867	+ 381,867
	Operational Control Segment [OCX], Transfer from Line 212			+ 381,867
36	Space Control Technology	45,012	58,012	+ 13,000
	Advanced Sensor Data Integration for Space Superiority			+ 3,000

[In thousands of dollars]

Line	Program element title	Fiscal year 2011 base	Committee recommendation	Change from budget estimate
	High Accuracy Network Determination System-Intelligent Optical Network for Space Situational Awareness			+ 5,000
	Integration of Missile Defense Agency radar systems into Space Surveillance Network			+ 5,000
53	Ground Attack Weapons Fuze Development	32,513	22,513	- 10,000
	Program delay			- 10,000
56	Operationally Responsive Space	93,978	138,378	+ 44,400
	Program increase for responsive launch capabilities			+ 40,000
	Space Sensor Data Link Technology			+ 4,400
58	National Polar-Orbiting Operational Environmental Satellite System (NPOESS)	325,505		- 325,505
	Program termination			- 325,505
58A	Defense Weather Satellite System (DWSS)		50,000	+ 50,000
	DWSS-only for defense sensor development			+ 50,000
60	Nuclear Weapons Support	60,545	65,545	+ 5,000
	Nuclear Enterprise Surety Tracking II			+ 5,000
62	Specialized Undergraduate Flight Training	8,066	15,066	+ 7,000
	AT-6B Demonstration for the Air National Guard			+ 7,000
66	Tactical Data Networks Enterprise	102,941	23,341	- 79,600
	F-22A Advanced Tactical Data Link—program termination			- 79,600
68	Small Diameter Bomb (SDB)	153,505	123,505	- 30,000
	SDB II—Contract Award Delay			- 30,000
70	Space Situation Awareness Systems	426,525	396,125	- 30,400
	Schedule delay for SBSS Follow-on			- 30,400
77	Life Support Systems	10,650	13,150	+ 2,500
	Active Noise Reduction Communication Ear Plug for Military Aircrew			+ 2,500
79	Integrated Command & Control Applications (IC2A)	10	1,010	+ 1,000
	Service Oriented Architecture Implementation for Cyber-Security Tools			+ 1,000
81	Joint Strike Fighter (JSF)	883,773	1,051,210	+ 167,437
	Air Force requested transfer from Line 135			+ 159,837
	Air Force requested transfer for Auto GCAS from APAF, Line 43			+ 7,600
85	Next Generation Aerial Refueling Aircraft	863,875	538,875	- 325,000
	Contract award delay			- 325,000
86	CSAR HH-60 Recapitalization	12,584		- 12,584
	Premature request			- 12,584
91	Single Integrated Air Picture (SIAP)	1,832		- 1,832
	Program termination			- 1,832
96	Airborne Senior Leader C3 (SLC3S)	15,826	7,826	- 8,000
	Contract award delay for SLC3S-A Communications Program (SCP)			- 8,000
98	Major T&E Investment	61,587	66,087	+ 4,500
	Holloman High Speed Test Track			+ 4,500
114	Air Force Integrated Military Human Resources System [AF-IMHRS]	43,300	23,300	- 20,000
	Funding ahead of need			- 20,000
117	B-52 Squadrons	146,096	141,396	- 4,700
	Air Force requested transfer from APAF, Line 38 for Internal Weapons Bay			+ 13,000
	EHF development funding ahead of need due to delay in FAB-T prototype delivery			- 24,700
	B-52 Satellite Communications			+ 7,000
119	B-1B Squadrons	33,234	35,234	+ 2,000
	B-1B AESA Radar Operational Utility Evaluation			+ 2,000
128	MQ-9 UAV	125,427	155,427	+ 30,000
	Information Dominance Sensor Testbed—Air Force identified shortfall			+ 15,000
	Predator C			+ 15,000
132	F-15E Squadrons	222,677	207,677	- 15,000

[In thousands of dollars]

Line	Program element title	Fiscal year 2011 base	Committee recommendation	Change from budget estimate
	Contract award delays			- 15,000
134	F-22A Squadrons	576,330	426,330	- 150,000
	Lab infrastructure			- 50,000
	Modernization program			- 100,000
135	F-35 Squadrons	217,561		- 217,561
	Premature request for follow-on development			- 57,724
	Air Force requested transfer to Line 81			- 159,837
137	Advanced Medium Range Air-to-Air Missile [AMRAAM]	62,922	47,822	- 15,100
	Funding ahead of need for F-22 Aircraft Integration			- 15,100
144	Aircraft Engine Component Improvement Program	147,396	120,626	- 26,770
	F-135 CIP—Funding ahead of need			- 26,770
149	Airborne Warning and Control System [AWACS]	239,755	229,755	- 10,000
	Contract award and schedule delays for Block 40/45 EMD and DRAGON			- 10,000
161	USAF Modeling and Simulation	21,638	23,538	+ 1,900
	Critical Infrastructure Cyber Operations Simulation			+ 1,900
164	Mission Planning Systems	79,112	80,112	+ 1,000
	Cyber Attack Prevention via Technology and User Education			+ 1,000
175	Minimum Essential Emergency Communications Network [MEECN]	78,784	68,984	- 9,800
	MMPU Production—Air Force requested transfer to MPAF, Line 9			- 9,800
178	Global Command and Control System	3,055	5,212	+ 2,157
	Air Force requested transfer from RDAF, Line 179			+ 2,157
179	Joint Command and Control Program [JC2]	2,157		- 2,157
	Air Force requested transfer to RDAF, Line 178			- 2,157
180	MILSATCOM Terminals	186,582	306,282	+ 119,700
	FAB-T, Air Force requested transfer from APAF, Line 75			+ 119,700
182	Airborne SIGINT Enterprise	149,268	144,268	- 5,000
	Program execution			- 5,000
190	Air Traffic Control, Approach, and Landing System [ATCALs]	33,268	36,268	+ 3,000
	Transportable Transponder Landing System [TTLS]			+ 3,000
191	Aerial Targets	63,573	58,573	- 5,000
	Program execution			- 5,000
206	Airborne Reconnaissance Systems	168,963	94,863	- 74,100
	Unmanned Aerial Vehicle Environment-Aware Adaptive Monitoring			+ 4,600
	Wide Area Airborne Surveillance Program of Record—program termination			- 78,700
209	MQ-1 Predator A UAV	28,913	23,913	- 5,000
	Program execution			- 5,000
210	RQ-4 UAV	251,318	220,318	- 31,000
	Execution adjustment			- 31,000
212	GPS III Space Segment	828,171	446,304	- 381,867
	Operational Control Segment [OCX], Transfer to Line 33			- 381,867
213	JSpOC Mission System	132,706	138,706	+ 6,000
	Karnac			+ 6,000
220	C-130 Airlift Squadron	113,107	48,107	- 65,000
	Air Force requested transfer to APAF, Line 62			- 65,000
222	C-17 Aircraft (IF)	177,212	162,212	- 15,000
	Contract award delays			- 15,000
228	C-STOL Aircraft	1,283	4,283	+ 3,000
	Next Generation Simulation Training for AFSOC Pararescue Forces			+ 3,000
235	Support Systems Development	6,141	49,241	+ 43,100
	Alternative energy research and integration			+ 40,000
	Freedom Fuels/Coal Fuel Alliance			+ 3,100
235A	Air Force Recruiting Information Support System		5,100	+ 5,100

[In thousands of dollars]

Line	Program element title	Fiscal year 2011 base	Committee recommendation	Change from budget estimate
999	Air Force Recruiting Information Support System— Air Force Requested Transfer from OMAF .....	.....	.....	+ 5,100
	Classified Programs	12,406,781	12,712,381	+ 305,600
	Classified Adjustments .....	.....	.....	+ 305,600

National Polar-Orbiting Operational Environmental Satellite System [NPOESS] and Defense Weather Satellite System [DWSS].— The Committee is concerned over the staggering cost estimates associated with the cancellation of the NPOESS tri-agency program and the follow-on systems that will be developed by the Department of Defense [DOD] and the National Oceanic and Atmospheric Administration [NOAA] respectively. The Nation has already invested \$5,038,000,000 in the NPOESS program. The current NOAA plan will invest an additional \$9,403,000,000 to complete its program. The most recent DOD cost estimates for the DWSS program are close to \$6,000,000,000. Therefore, if nothing changes, the current price tag for these satellites is more than \$20,000,000,000.

While the Committee understands the importance of these satellites and their mission, the Committee believes that there must be a more cost-effective way for the DOD to utilize NOAA's significant investment. It is premature at this time for DOD to set up a large program office and begin to build DWSS. Fortunately, DOD currently has two remaining Defense Meteorological Satellites in storage, which provides the Air Force more time to coordinate with NOAA on a follow-on program. The Committee understands, however, that there are unique sensors for DOD's weather satellites that should continue to be developed and provides \$50,000,000 only for the DOD-specific sensor development.

Combat Search and Rescue [CSAR] HH-60 Recapitalization.— The Committee provides no funding for the CSAR HH-60 recapitalization program. The Air Force needs to replace these helicopters, but not at excess cost to the taxpayer. The Committee is concerned that the Air Force spent well over \$200,000,000 on the CSAR-X program—the predecessor to the recapitalization program—and it was subsequently terminated with nothing to show for that investment. The Committee is concerned that the Air Force's current plan could produce similar results. The Air Force currently has over \$150,000,000 programmed for the CSAR HH-60 recapitalization program over the next 5 years, but does not plan to present its long-term recapitalization program to the Congress until the fiscal year 2012 budget submission.

At the same time, however, the Air Force is growing its current HH-60 Pave Hawk fleet and replacing damaged or destroyed aircraft with the Operational Loss Replacement program [HH-60 OLR]. The Air Force is procuring UH-60M helicopters off of an existing Army contract and making modifications for its CSAR mission. The Committee believes that the most cost effective approach is to continue the Operational Loss Replacement program until a more well-defined, affordable approach to recapitalization is presented to the Congress. To support the Operational Loss Replacement effort, the Committee includes \$303,400,000 above the budget

request for 10 HH-60Ms in the Aircraft Procurement, Air Force Account under title IX of this act.

Common Vertical Lift Support Platform [CVLSP].—The Air Force requested that the Committee transfer funding from the Aircraft Procurement, Air Force Account to the Research, Development, Test and Evaluation, Air Force Account for the CVLSP program. The Committee denies the request and provides no funds in research and development for the CVLSP program. The Committee is concerned that, like the CSAR HH-60 Recapitalization program, this program will take longer and cost more than is reasonable. The Committee has already provided \$7,900,000 to stand up a program office and develop documentation to support a competition. The Air Force requested another \$6,400,000 to continue to support planning and the program office in fiscal year 2011. A contract award is not anticipated until mid-fiscal year 2012 for two test aircraft in the Research and Development Account. These costs appear excessive given that this program is intended to replace legacy UH-1N platforms with a helicopter with similar capability and capacity. According to the most recent plan, the Air Force will spend over \$73,000,000 in research and development on a program that should be able to go directly to procurement today. The Committee supports the Air Force's efforts to replace the aging UH-1Ns but does not support excess spending in research and development for the replacement program.

F-22 Modernization Program.—The Committee is concerned over the mounting costs of the F-22 modernization program. In the fiscal year 2011 budget request alone, there is \$1,272,200,000 in the Aircraft Procurement, Air Force and Research, Development, Test and Evaluation, Air Force accounts for F-22 modernization. The Committee understands that the F-22 modernization program will cost over \$11,000,000,000 to complete, which is an alarming price tag to modernize the most advanced fighter aircraft in the world. To rein in spending on the F-22 modernization program, the Committee has recommended several reductions and expects the Office of the Secretary of Defense to closely examine the modernization program in the fiscal year 2012 budget submission.

First, the Committee recommends \$101,000,000 to update F-22 laboratory infrastructure, which is a \$50,000,000 reduction to the budget request. There are 20 laboratories across the country that support the F-22 program. To date, over \$400,000,000 has been spent to upgrade these laboratories and the Air Force plans to spend another \$583,500,000 from fiscal year 2011 through fiscal year 2015 on laboratory infrastructure. The Committee has reduced funding for this program in the past as excessive, but the Air Force has not changed its plans to spend nearly \$1,000,000,000 on the upgrade initiatives.

Second, the Committee recommends a \$100,000,000 reduction to the Research, Development, Test and Evaluation, Air Force F-22 modernization program. As noted above, the cost of modernizing the world's most advanced fighter aircraft is unjustifiable given that production is just beginning to wind down and the aircraft are still being fielded. The Committee directs the Government Accountability Office to provide the congressional defense committees with a report that examines the history of the modernization programs

of other fighter aircraft, such as the F-15, F-16, F-117, and F-18. The report shall include a review of the funding and capability enhancements in the F-22 modernization program in comparison to other fighter aircraft programs at the same stage of their development and fielding. In addition, the report shall examine the F-22 data link efforts as described further in the paragraph below.

Third, the Committee provides no funding for the F-22 Multifunction Advance Data Link [MADL] program. In August 2008, the Joint Requirements Oversight Council [JROC] approved MADL as the waveform for all low observable platforms. In November 2009, the Under Secretary of Defense for Acquisition, Technology and Logistics [USD [AT&L]] directed that the Joint Strike Fighter Joint Program Office would develop the MADL waveform and the message standards, and the Air Force would develop an implementation plan for those waveforms. However, since that direction from the JROC and USD [AT&L], the Air Force plans to spend in excess of \$1,000,000,000 on MADL for the F-22. This significant amount of funding to incorporate the F-35 waveform into the F-22 is hard to comprehend given that the F-35 program is funding the majority of the development effort. The Committee directs the USD [AT&L] to examine the MADL program and provide the Committee with a more sustainable plan for the F-22 data link.

Finally, the Committee recommends a reduction of \$15,100,000 for integration of AIM-120D on the F-22. The request is premature given that there is at least a 10-month schedule delay in the AIM-120D operational test program, the Air Force slowed down the F-22 modernization program from fiscal year 2010 to the fiscal year 2011 budget request, which pushed out the AIM-120D integration onto F-22, and the Committee's recommendation to re-scope the modernization program in future year planning. The Committee understands that AIM-120D integration onto the F-22 is still a requirement and that it will need to be done in accordance with the new schedule for AIM-120D and the re-phased F-22 modernization program.

Wide Area Airborne Surveillance [WAAS] Program of Record.—In accordance with Senate report 111-201 accompanying S. 3454, the National Defense Authorization Act for Fiscal Year 2011, as reported, the Committee eliminates funding for the WAAS program of record.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE

Appropriations, 2010	\$20,747,081,000
Budget estimate, 2011	20,661,600,000
Committee recommendation	21,029,479,000

The Committee recommends an appropriation of \$21,029,479,000. This is \$367,879,000 above the budget estimate.

COMMITTEE RECOMMENDED PROGRAM

The following table summarizes the budget estimate for this appropriation, the Committee recommendation, and the Committee recommended adjustments to the budget estimate:

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, DEFENSE-WIDE			
	BASIC RESEARCH			
1	DTRA UNIVERSITY STRATEGIC PARTNERSHIP BASIC RESEARCH ..	47,412	47,412	.....
2	DEFENSE RESEARCH SCIENCES	328,195	295,695	- 32,500
3	GOVT/INDUSTRY COSPONSORSHIP OF UNIVERSITY RESEARCH ....	.....	3,400	+ 3,400
4	DEFENSE EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE .....	.....	.....	.....
5	NATIONAL DEFENSE EDUCATION PROGRAM	109,911	95,311	- 14,600
6	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	49,508	55,508	+ 6,000
	TOTAL, BASIC RESEARCH	535,026	497,326	- 37,700
	APPLIED RESEARCH			
7	INSENSITIVE MUNITIONS—EXPLORATORY DEVELOPMENT	22,448	20,448	- 2,000
8	HISTORICALLY BLACK COLLEGES & UNIV [HBCU] SCIENCE	15,067	15,067	.....
9	LINCOLN LABORATORY RESEARCH PROGRAM	32,830	32,830	.....
10	INFORMATION AND COMMUNICATIONS TECHNOLOGY	281,262	253,262	- 28,000
11	COGNITIVE COMPUTING SYSTEMS	90,143	90,143	.....
12	MACHINE INTELLIGENCE	44,682	44,682	.....
13	BIOLOGICAL WARFARE DEFENSE	32,692	32,692	.....
14	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	169,287	194,987	+ 25,700
15	JOINT DATA MANAGEMENT ADVANCED DEVELOPMENT	3,261	.....	- 3,261
16	CYBER SECURITY RESEARCH	10,000	5,000	- 5,000
17	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING [HSCB] APP	9,499	7,999	- 1,500
18	TACTICAL TECHNOLOGY	224,378	234,378	+ 10,000
19	MATERIALS AND BIOLOGICAL TECHNOLOGY	312,586	297,586	- 15,000
	WMD DEFEAT TECHNOLOGY .....	.....	.....	.....
20	ELECTRONICS TECHNOLOGY	286,936	246,936	- 40,000
21	WEAPONS OF MASS DESTRUCTION DEFEAT TECHNOLOGIES	212,742	216,242	+ 3,500
22	SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT	26,545	21,545	- 5,000
23	SOF MEDICAL TECHNOLOGY DEVELOPMENT .....	.....	.....	.....
	TOTAL, APPLIED RESEARCH	1,774,358	1,713,797	- 60,561
	ADVANCED TECHNOLOGY DEVELOPMENT			
24	JOINT MUNITIONS ADVANCED TECH INSENSITIVE MUNITIONS AD	20,556	20,556	.....
25	SO/LIC ADVANCED DEVELOPMENT	44,423	44,423	.....
26	COMBATING TERRORISM TECHNOLOGY SUPPORT	85,299	140,099	+ 54,800
27	COUNTERPROLIFERATION INITIATIVES—PROLIF PREV & DEFEAT	295,163	295,163	.....
28	BALLISTIC MISSILE DEFENSE TECHNOLOGY	132,220	98,220	- 34,000
29	JOINT ADVANCED CONCEPTS	6,808	6,808	.....
30	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	22,700	22,700	.....
31	AGILE TRANSPO FOR THE 21ST CENTURY [AT21]—THEATER CA	750	750	.....
32	ADVANCED AEROSPACE SYSTEMS	303,078	219,678	- 83,400
33	SPACE PROGRAMS AND TECHNOLOGY	98,130	98,130	.....
34	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—ADVANCED DEVELOPMENT	177,113	236,713	+ 59,600
35	JOINT ELECTRONIC ADVANCED TECHNOLOGY	8,386	8,386	.....
36	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	206,917	216,917	+ 10,000
37	NETWORKED COMMUNICATIONS CAPABILITIES	30,035	30,035	.....
38	JOINT DATA MANAGEMENT RESEARCH	6,289	4,289	- 2,000
39	BIOMETRICS SCIENCE AND TECHNOLOGY	11,416	11,416	.....
40	CYBER SECURITY ADVANCED RESEARCH	10,000	5,000	- 5,000
41	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING [HSCB] ADVANCED DEVELOPMENT	11,510	10,510	- 1,000
42	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROGRAM	18,916	48,916	+ 30,000
43	JOINT ROBOTICS PROGRAM/AUTONOMOUS SYSTEMS	9,943	9,943	.....
44	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS	20,542	40,742	+ 20,200
45	DEPLOYMENT AND DISTRIBUTION ENTERPRISE TECHNOLOGY	29,109	29,109	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
46	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	68,021	64,021	- 4,000
47	MICROELECTRONIC TECHNOLOGY DEVELOPMENT AND SUP- PORT	26,878	41,878	+ 15,000
48	JOINT WARFIGHTING PROGRAM	10,966	10,966	.....
49	ADVANCED ELECTRONICS TECHNOLOGIES	197,098	201,098	+ 4,000
50	SYNTHETIC APERTURE RADAR [SAR] COHERENT CHANGE DE- TECT .....	.....	.....	.....
51	ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS .....	.....	.....	.....
52	HIGH-PERFORMANCE COMPUTING MODERNIZATION PROGRAM ...	200,986	255,486	+ 54,500
53	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	219,809	219,809	.....
54	CLASSIFIED DARPA PROGRAMS	167,008	150,308	- 16,700
55	NETWORK-CENTRIC WARFARE TECHNOLOGY	234,985	205,985	- 29,000
56	SENSOR TECHNOLOGY	205,032	205,032	.....
57	GUIDANCE TECHNOLOGY .....	.....	.....	.....
58	DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOP- MENT	13,986	13,986	.....
59	SOFTWARE ENGINEERING INSTITUTE	30,910	30,910	.....
61	QUICK REACTION SPECIAL PROJECTS	78,244	60,744	- 17,500
62	JOINT EXPERIMENTATION	111,946	91,946	- 20,000
63	MODELING AND SIMULATION MANAGEMENT OFFICE	38,140	33,140	- 5,000
64	DIRECTED ENERGY RESEARCH	98,688	83,688	- 15,000
65	TEST & EVALUATION SCIENCE & TECHNOLOGY	97,642	97,642	.....
66	TECHNOLOGY TRANSFER	23,310	30,010	+ 6,700
67	SPECIAL OPERATIONS ADVANCED TECHNOLOGY DEVELOPMENT ..	30,806	40,206	+ 9,400
68	AVIATION ENGINEERING ANALYSIS	4,234	4,234	.....
69	SOF INFORMATION & BROADCAST SYSTEMS ADVANCED TECH- NOLOGY	4,942	4,942	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	3,412,934	3,444,534	+ 31,600
	DEMONSTRATION & VALIDATION			
70	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIP- MENT	32,132	36,132	+ 4,000
71	RETRACT LARCH	21,592	21,592	.....
72	JOINT ROBOTICS PROGRAM	9,878	9,878	.....
73	ADVANCE SENSOR APPLICATIONS PROGRAM	18,060	18,060	.....
74	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PRO- GRAM	30,419	41,419	+ 11,000
75	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	436,482	431,482	- 5,000
76	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT ...	1,346,181	1,326,181	- 20,000
	TWO STAGE INTERCEPTOR SEGMENT .....	.....	.....	.....
	EUROPEAN MIDCOURSE RADAR .....	.....	.....	.....
	EUROPEAN GLOBAL ENGAGEMENT MANGER/U.S. COMMUNICA- TIONS .....	.....	.....	.....
77	BALLISTIC MISSILE DEFENSE BOOST DEFENSE SEGMENT .....	.....	.....	.....
78	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	277,062	287,962	+ 10,900
79	BALLISTIC MISSILE DEFENSE SENSORS	454,859	392,159	- 62,700
80	BALLISTIC MISSILE DEFENSE SYSTEM INTERCEPTOR .....	.....	.....	.....
81	BALLISTIC MISSILE DEFENSE TEST & TARGETS	1,113,425	.....	- 1,113,425
	BALLISTIC MISSILE DEFENSE TESTS .....	.....	459,200	+ 459,200
	BALLISTIC MISSILE DEFENSE TARGETS .....	.....	497,065	+ 497,065
82	BALLISTIC MISSILE DEFENSE ENABLING PROGRAMS	402,769	406,269	+ 3,500
83	SPECIAL PROGRAMS—MDA	270,189	250,189	- 20,000
84	AEGIS BMD	1,467,278	1,586,278	+ 119,000
	AEGIS SM-3 BLOCK IIA CO-DEVELOPMENT .....	.....	.....	.....
85	SPACE SURVEILLANCE & TRACKING SYSTEM	112,678	112,678	.....
86	MULTIPLE KILL VEHICLES .....	.....	.....	.....
87	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS	10,942	10,942	.....
88	BALLISTIC MISSILE DEFENSE C2BMC	342,625	456,725	+ 114,100
89	BALLISTIC MISSILE DEFENSE HERCULES .....	.....	.....	.....
90	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT	68,726	58,726	- 10,000
91	BALLISTIC MISSILE DEFENSE INTERGRATION AND OPERATIONS CENTER [MDIOC]	86,198	86,198	.....
92	REGARDING TRENCH	7,529	7,529	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
93	SEA BASED X-BAND RADAR [SBX]	153,056	153,056	.....
94	DEPARTMENT OF DEFENSE CORROSION PROGRAM .....	.....	.....	.....
96	BMD EUROPEAN CAPABILITY .....	.....	.....	.....
98	ISRAELI COOPERATIVE PROGRAMS	121,735	209,935	+ 88,200
99	HUMANITARIAN DEMINING	14,735	14,735	.....
100	COALITION WARFARE	13,786	13,786	.....
101	DEPARTMENT OF DEFENSE CORROSION PROGRAM	4,802	39,502	+ 34,700
102	DOD UNMANNED AIRCRAFT SYSTEM [UAS] COMMON DEVELOPMENT	49,292	54,292	+ 5,000
103	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS .....	.....	.....	.....
104	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING [HSCB] RES	7,459	7,459	.....
105	JOINT SYSTEMS INTEGRATION COMMAND [JSIC]	19,413	19,413	.....
106	JOINT FIRES INTEGRATION & INTEROPERABILITY TEAM	16,637	16,637	.....
107	LAND-BASED SM-3 [LBSM3]	281,378	281,378	.....
108	AEGIS SM-3 BLOCK IIA CO-DEVELOPMENT	318,800	322,800	+ 4,000
109	PRECISION TRACKING SPACE SYSTEM RDT&E	66,969	66,969	.....
110	AIRBORNE INFRARED [ABIR]	111,671	86,671	- 25,000
111	REDUCTION OF TOTAL OWNERSHIP COST	20,310	20,310	.....
112	JOINT ELECTROMAGNETIC TECHNOLOGY [JET] PROGRAM	4,027	4,027	.....
113	DEFENSE ACQUISITION CHALLENGE PROGRAM [DACP]	24,344	24,344	.....
114	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT	7,973	7,973	.....
115	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT	239,861	239,861	.....
	TOTAL, DEMONSTRATION & VALIDATION	7,985,272	8,079,812	+ 94,540
	ENGINEERING & MANUFACTURING DEVELOPMENT			
116	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	407,162	304,262	- 102,900
117	JOINT ROBOTICS PROGRAM	4,155	4,155	.....
118	ADVANCED IT SERVICES JOINT PROGRAM OFFICE [AITS—JPO]	49,364	23,695	- 25,669
119	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM [JTIDS]	20,954	20,954	.....
120	WEAPONS OF MASS DESTRUCTION DEFEAT CAPABILITIES	7,307	11,307	+ 4,000
121	INFORMATION TECHNOLOGY DEVELOPMENT	11,937	11,937	.....
122	DEFENSE INTEGRATED MILITARY HUMAN RESOURCES SYSTEM	11,800	11,800	.....
123	BUSINESS TRANSFORMATION AGENCY R&D ACTIVITIES	184,131	181,166	- 2,965
124	HOMELAND PERSONNEL SECURITY INITIATIVE	391	391	.....
125	OUS(D) IT DEVELOPMENT INITIATIVES	5,000	5,000	.....
126	TRUSTED FOUNDRY	35,512	41,512	+ 6,000
127	DEFENSE ACQUISITION EXECUTIVE [DAE] PILOT PROGRAM .....	.....	.....	.....
128	GLOBAL COMBAT SUPPORT SYSTEM	17,842	17,842	.....
129	JOINT COMMAND AND CONTROL PROGRAM [JC2] .....	.....	.....	.....
130	WOUNDED ILL AND INJURED SENIOR OVERSIGHT COMMITTEE OFF	1,590	1,590	.....
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	757,145	635,611	- 121,534
	RDT&E MANAGEMENT SUPPORT			
131	TRAINING TRANSFORMATION [T2] .....	.....	.....	.....
132	DEFENSE READINESS REPORTING SYSTEM [DRRS]	5,113	5,113	.....
133	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	8,052	8,052	.....
134	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT	162,286	170,286	+ 8,000
135	ASSESSMENTS AND EVALUATIONS	2,500	2,500	.....
136	THERMAL VICAR	8,851	8,851	.....
137	JOINT MISSION ENVIRONMENT TEST CAPABILITY [JMETC]	10,287	10,287	.....
138	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	49,282	49,282	.....
139	USD(A&T)—CRITICAL TECHNOLOGY SUPPORT	4,743	4,743	.....
140	FOREIGN MATERIAL ACQUISITION AND EXPLOITATION	95,520	95,520	.....
141	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION	94,577	94,577	.....
142	CLASSIFIED PROGRAM USD(P) .....	.....	100,000	+ 100,000
143	FOREIGN COMPARATIVE TESTING	32,755	32,755	.....
144	SYSTEMS ENGINEERING	29,824	29,824	.....
145	NUCLEAR MATTERS—PHYSICAL SECURITY	6,264	6,264	.....
146	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	15,091	15,091	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
147	GENERAL SUPPORT TO USD (INTELLIGENCE)	6,227	6,227	.....
148	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	120,995	120,995	.....
155	SMALL BUSINESS INNOVATION RESEARCH/CHALLENGE ADMINISTRATION	2,189	2,189	.....
156	DEFENSE TECHNOLOGY ANALYSIS	13,858	11,158	- 2,700
157	FORCE TRANSFORMATION DIRECTORATE	19,701	19,701	.....
158	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	61,054	56,054	- 5,000
159	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING & EVALUATION	64,737	64,737	.....
160	DEVELOPMENT TEST AND EVALUATION	18,688	36,688	+ 18,000
161	DARPA AGENCY RELOCATION	11,000	11,000	.....
162	MANAGEMENT HEADQUARTERS (RESEARCH & DEVELOPMENT)	56,257	56,257	.....
163	BUDGET AND PROGRAM ASSESSMENTS	6,099	6,099	.....
164	AVIATION SAFETY TECHNOLOGIES	10,900	10,900	.....
165	JOINT STAFF ANALYTICAL SUPPORT	23,081	8,081	- 15,000
168	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES	31,500	37,600	+ 6,100
169	INFORMATION TECHNOLOGY RAPID ACQUISITION	5,135	5,135	.....
170	CYBER SECURITY INITIATIVE	10,000	7,000	- 3,000
171	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS (IO)	21,272	21,272	.....
173	WARFIGHTING AND INTELLIGENCE-RELATED SUPPORT	845	845	.....
174	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION	92,253	57,188	- 35,065
175	PENTAGON RESERVATION	20,482	20,482	.....
176	MANAGEMENT HEADQUARTERS—MDA	29,754	29,754	.....
177	IT SOFTWARE DEVELOPMENT INITIATIVES	278	278	.....
	CLASSIFIED PROGRAMS	61,577	61,577	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,213,027	1,284,362	+ 71,335
	OPERATIONAL SYSTEMS DEVELOPMENT			
178	DEFENSE INFORMATION SYSTEM FOR SECURITY (DISS)	5,522	.....	- 5,522
179	REGIONAL INTERNATIONAL OUTREACH & PARTNERSHIP FOR PEACE	2,139	2,139	.....
180	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SYSTEMS	290	290	.....
181	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS D)	6,634	6,634	.....
183	JOINT INTEGRATION AND INTEROPERABILITY	44,139	44,139	.....
184	JOINT STAFF ANALYTICAL SUPPORT .....	.....	.....	.....
185	CLASSIFIED PROGRAMS	2,288	2,288	.....
186	C4I INTEROPERABILITY	74,023	74,023	.....
188	JOINT/ALLIED COALITION INFORMATION SHARING	9,379	9,379	.....
195	NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT	467	467	.....
196	DEFENSE INFO INFRASTRUCTURE ENGINEERING AND INTEGRATION	16,629	36,629	+ 20,000
197	LONG HAUL COMMUNICATIONS (DCS)	9,130	9,130	.....
198	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	9,529	9,529	.....
199	PUBLIC KEY INFRASTRUCTURE (PKI)	8,881	8,881	.....
200	KEY MANAGEMENT INFRASTRUCTURE (KMI)	45,941	45,941	.....
201	INFORMATION SYSTEMS SECURITY PROGRAM	14,077	14,077	.....
202	INFORMATION SYSTEMS SECURITY PROGRAM	388,827	388,827	.....
204	DISA MISSION SUPPORT OPERATIONS .....	.....	.....	.....
205	C4I FOR THE WARRIOR	2,261	2,261	.....
206	GLOBAL COMMAND AND CONTROL SYSTEM	26,247	25,047	- 1,200
207	JOINT SPECTRUM CENTER	20,991	20,991	.....
208	NET-CENTRIC ENTERPRISE SERVICES (NCES)	3,366	3,666	+ 300
209	JOINT MILITARY DECEPTION INITIATIVE	1,161	1,161	.....
210	TELEPORT PROGRAM	6,880	6,880	.....
211	SPECIAL APPLICATIONS FOR CONTINGENCIES	16,272	23,772	+ 7,500
214	CYBER SECURITY INITIATIVE	501	2,501	+ 2,000
216	CYBER SECURITY INITIATIVE	2,251	4,251	+ 2,000
217	CRITICAL INFRASTRUCTURE PROTECTION (CIP)	10,486	10,486	.....
221	POLICY R&D PROGRAMS	9,136	9,136	.....

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
223	NET CENTRICITY	29,831	14,831	-15,000
227	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	1,290	1,290	.....
230	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	3,513	3,513	.....
232	MQ-1 PREDATOR A UAV	98	98	.....
234	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM	2,988	2,988	.....
235	INT'L INTELLIGENCE TECHNOLOGY ASSESSMENT, ADVANCE- MENT	1,416	1,416	.....
245	INDUSTRIAL PREPAREDNESS	21,798	21,798	.....
246	LOGISTICS SUPPORT ACTIVITIES	2,813	2,813	.....
247	MANAGEMENT HEADQUARTERS (JCS)	2,807	2,807	.....
249	NATO AGS	93,885	93,885	.....
250	MQ-9 UAV	98	98	.....
252	SPECIAL OPERATIONS AVIATION SYSTEMS ADVANCED DEVELOP- MENT	68,691	68,691	.....
253	SPECIAL OPERATIONS TACTICAL SYSTEMS DEVELOPMENT	1,582	1,582	.....
254	SPECIAL OPERATIONS INTELLIGENCE SYSTEMS DEVELOPMENT	23,879	29,979	+ 6,100
255	SOF OPERATIONAL ENHANCEMENTS	62,592	66,172	+ 3,580
256	SPECIAL OPERATIONS CV-22 DEVELOPMENT	14,406	14,406	.....
257	JOINT MULTI-MISSION SUBMERSIBLE	14,924	14,924	.....
258	OPS ADVANCED SEAL DELIVERY SYSTEM (ASDS) DEVELOP- MENT .....	.....	.....	.....
259	MISSION TRAINING AND PREPARATION SYSTEMS (MTPS)	2,915	2,915	.....
260	UNMANNED VEHICLES (UV) .....	.....	.....	.....
261	MC130J SOF TANKER RECAPITALIZATION	7,624	7,624	.....
262	SOF COMMUNICATIONS EQUIPMENT AND ELECTRONICS SYS- TEMS	1,922	922	-1,000
263	SOF TACTICAL RADIO SYSTEMS	2,347	2,347	.....
264	SOF WEAPONS SYSTEMS	479	479	.....
265	SOF SOLDIER PROTECTION AND SURVIVAL SYSTEMS	593	2,593	+ 2,000
266	SOF VISUAL AUGMENTATION, LASERS & SENSOR SYSTEMS .....	.....	.....	.....
267	SOF TACTICAL VEHICLES	1,994	994	-1,000
268	SOF ROTARY WING AVIATION	14,473	36,473	+ 22,000
269	SOF UNDERWATER SYSTEMS	13,986	15,586	+ 1,600
270	SOF SURFACE CRAFT	2,933	2,933	.....
271	SOF PSYOP	4,193	4,193	.....
272	SOF GLOBAL VIDEO SURVEILLANCE ACTIVITIES	5,135	5,135	.....
273	SOF OPERATIONAL ENHANCEMENTS INTELLIGENCE	9,167	9,167	.....
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	1,151,819	1,195,177	+ 43,358
	CLASSIFIED PROGRAMS	3,832,019	4,178,860	+ 346,841
	DARPA UNDISTRIBUTED REDUCTION .....	.....	.....	.....
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, DE- FENSE-WIDE	20,661,600	21,029,479	+ 367,879

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
2	Defense Research Sciences	328,195	295,695	-32,500
	Excessive growth .....	.....	.....	-32,500
3	Government/Industry Cosponsorship of University Research .....	.....	3,400	+ 3,400
	Nanotechnology for Next Generation Portable Power .....	.....	.....	+ 3,400
5	National Defense Education Program	109,911	95,311	-14,600
	Unexecutable growth .....	.....	.....	-15,600
	STEM/Energy and Power Career Development Initiative .....	.....	.....	+ 1,000
6	Chemical and Biological Defense Program	49,508	55,508	+ 6,000
	Portable Rapid Bacterial Warfare Detection Unit .....	.....	.....	+ 6,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
7	Joint Munitions Technology	22,448	20,448	- 2,000
	Excessive growth			- 2,000
10	Information & Communications Technology	281,262	253,262	- 28,000
	DISCOVER contract award delays			- 10,000
	Extreme Computing contract award delays			- 18,000
14	Chemical and Biological Defense Program	169,287	194,987	+ 25,700
	TMTI BA 5 unexecutable funding transferred back to S&T at request of the Department			+ 5,000
	Accelerated Vaccine Design and Development Toolkit			+ 2,000
	Advanced Novel Drug Development for the Warfighter			+ 2,600
	Anti Viral Vaccine Development			+ 6,100
	Chemical/Biological Infrared Detection System			+ 3,000
	Contaminated Human Remains Pouch			+ 3,000
	Paintshield for Protection from Microbial Threats			+ 4,000
15	Joint Data Management Advanced Development	3,261		- 3,261
	Duplicate effort			- 3,261
16	Cyber Security Research	10,000	5,000	- 5,000
	Lack of authorization			- 5,000
17	Human, Social and Culture Behavior Modeling [HSCB] Applied Research	9,499	7,999	- 1,500
	Excessive growth			- 1,500
18	Tactical Technology	224,378	234,378	+ 10,000
	Center of Excellence for Research in Ocean Sciences [CEROS]			+ 10,000
19	Materials and Biological Technology	312,586	297,586	- 15,000
	Strategic Materials			+ 5,000
	Unsustained growth			- 20,000
20	Electronics Technology	286,936	246,936	- 40,000
	Excessive growth			- 40,000
21	Weapons of Mass Destruction Defeat Technologies	212,742	216,242	+ 3,500
	Reachback Decision Informatics			+ 3,500
22	Special Operations Technology Development	26,545	21,545	- 5,000
	Unexecutable growth			- 5,000
26	Combating Terrorism Technology Support	85,299	140,099	+ 54,800
	Affordable Robust Mid-Sized Unmanned Ground Vehicle ... Chemterrorism Operations for Public Emergency Re- sponse			+ 4,000
	Covert Sensing and Tagging System [CSTS]			+ 1,000
	Cross Lingual Information Correlation			+ 2,000
	DB-110 on MQ-9			+ 3,000
	Dynamic Flow Management System			+ 2,000
	Expeditionary Surveillance and Reconnaissance Program .. Heron TP UAS			+ 9,000
	Integrated Rugged Checkpoint Container			+ 8,000
	Integrated Support System for Soldiers			+ 2,400
	Ka-Band Mini-Multimode Search and Imaging Radar Completion and Flight Testing			+ 1,700
	Reconnaissance and Data Exploitation System			+ 3,000
	Technical Exploitation Operations Center, Gowen Field			+ 4,000
	Technology for Rapid Foreign Language Acquisition for Specialized Military and Intelligence Purposes			+ 3,500
	Transparent Lithia Alumina Silicate Glass Ceramic Armor Systems			+ 3,200
	Unmanned Aerial Platforms to Support First Responders During Local and National Disaster			+ 3,500
28	Ballistic Missile Defense Technology	132,220	98,220	+ 1,500
	Network Centric Airborne Defense Element			- 34,000
	Transfer SM-3 Block IIB Development to AEGIS BMD, Line 84			+ 6,000
32	Advanced Aerospace Systems	303,078	219,678	- 40,000
	ArcLight			- 83,400
	ISIS lack of transition partner			- 5,000
	MoTr program delays			- 43,400
	Vulture program descope and delays			- 15,000
				- 20,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
34	Chemical and Biological Defense Program—Advanced Development	177,113	236,713	+ 59,600
	TMTI BA 5 unexecutable funding transferred back to S&T at request of the Department			+ 45,600
	Army Plant Vaccine Development Program			+ 3,000
	Bioterrorism & Battlefield Medical Solutions			+ 4,000
	Dynamic Information Visualization Project			+ 4,000
	NIDS Handheld Common Identifier for Biological Agents ..			+ 3,000
36	Joint Capability Technology Demonstrations	206,917	216,917	+ 10,000
	Cultural Intelligence for Enhanced Strategic Communica- tions			+ 2,000
	MAGIC UAS			+ 8,000
38	Joint Data Management Research	6,289	4,289	- 2,000
	Excessive growth			- 2,000
40	Cyber Security Advanced Research	10,000	5,000	- 5,000
	Lack of authorization			- 5,000
41	Human, Social and Culture Behavior Modeling [HSCB] Ad- vanced Development	11,510	10,510	- 1,000
	Excessive growth			- 1,000
42	Defense-Wide Manufacturing Science and Technology Pro- gram	18,916	48,916	+ 30,000
	Industrial Base Innovation Fund			+ 30,000
44	Generic Logistics R&D Technology Demonstrations	20,542	40,742	+ 20,200
	Biofuels Program			+ 2,000
	Celluostic Hydro-Treated Renewable Jet Fuel			+ 2,500
	Commodity Management			+ 1,700
	Continuous Acquisition and Life-Cycle Support Integrated Data Environment and Defense Logistics Enterprise Services Program			+ 3,400
	Electronic Commodity Project			+ 850
	Green Product Evaluation & Implementation Program			+ 3,000
	Next Generation Manufacturing Technologies Initiative			+ 3,000
	Radio Frequency Identification Technologies			+ 1,000
	Thin-Film PV Module Deployment and Verification			+ 2,750
46	Strategic Environmental Research Program	68,021	64,021	- 4,000
	Unexecutable growth			- 4,000
47	Microelectronics Technology Development and Support	26,878	41,878	+ 15,000
	3-D Laser Radar Technology Development			+ 3,500
	Electronics and Materials for Flexible Sensors and Tran- sponders			+ 6,500
	Rapid DNA Identification System			+ 2,000
	Terrorist Threat Detection System for Shipping Contain- ers			+ 3,000
49	Advanced Electronics Technologies	197,098	201,098	+ 4,000
	Institute of Flexible Manufacturing			+ 4,000
52	High-performance Computing Modernization Program	200,986	255,486	+ 54,500
	High-performance Computational Design of Novel Mate- rials			+ 3,000
	High-performance Computing in Biomedical Engineering and Health Sciences benefiting the Warfighter			+ 1,500
	Program adjustment			+ 50,000
54	Classified DARPA Programs	167,008	150,308	- 16,700
	Poor justification materials			- 16,700
55	Network-Centric Warfare Technology	234,985	205,985	- 29,000
	HELLADS lack of acquisition strategy			- 15,000
	Unsustained growth			- 14,000
61	Quick Reaction Special Projects	78,244	60,744	- 17,500
	Excessive growth			- 15,000
	P826: Excess to Quick Reaction Fund requirements			- 7,000
	Mobile Renewable Energy for U.S. Bases in Afghanistan ..			+ 3,000
	Warfighter Interoperability Technologies			+ 1,500
62	Joint Experimentation	111,946	91,946	- 20,000
	Unexecutable growth			- 20,000
63	DoD Modeling and Simulation Management Office	38,140	33,140	- 5,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Unexecutable growth			- 5,000
64	Directed Energy Research	98,688	83,688	- 15,000
	Unjustified request			- 15,000
66	Technology Transfer	23,310	30,010	+ 6,700
	Center for Innovation at Arlington			+ 2,700
	MilTech Extension Program			+ 2,000
	SpringBoard Technology Transfer			+ 2,000
67	Special Operations Advanced Technology Development	30,806	40,206	+ 9,400
	Antennas and Carbon Nanotube devices for Intelligence ..			+ 2,000
	Collision Avoidance System for UAVs			+ 2,000
	Escalation of Force Non-Lethal Technology for Special Op- erations Forces			+ 3,000
	Small Assault Vessel Expeditionary			+ 2,400
70	Nuclear and Conventional Physical Security Equipment RDT&E ADC&P	32,132	36,132	+ 4,000
	Streetsweeper			+ 4,000
74	Environmental Security Technical Certification Program	30,419	41,419	+ 11,000
	Inland Empire Groundwater Perchlorate Remediation			+ 8,000
	Toxic Chemicals and Hazardous Material Improvement and Remediation			+ 3,000
75	Ballistic Missile Defense Terminal Defense Segment	436,482	431,482	- 5,000
	Funding no longer required for transition to Reagan Test Site			- 5,000
76	Ballistic Missile Defense Midcourse Defense Segment	1,346,181	1,326,181	- 20,000
	Excess award fee			- 20,000
78	Chemical and Biological Defense Program	277,062	287,962	+ 10,900
	Lightweight Chemical/Biological Ensemble execution delays			- 1,000
	Advanced Non-Woven Biological and Chemical Agent Pro- tective Gear			+ 2,600
	Automated Picoliter Digital Nucleic Acid Analysis for Med- ical Biologic Detection and Diagnostics			+ 1,600
	Detecting Exposure to Nerve Agents			+ 2,700
	Military Medical Decontamination System			+ 5,000
79	Ballistic Missile Defense Sensors	454,859	392,159	- 62,700
	Transfer to Line 88 for Concurrent Test, Training and Op- erations			- 35,900
	Transfer to Line 88 for TPY-2 C2BMC Fielding			- 13,000
	Transfer to Line 88 for BMDS Radars Communications Sustainment [TPY-2]			- 13,800
81	Ballistic Missile Defense Test & Targets	1,113,425		- 1,113,425
	Transfer to Lines 81A, 81B, 82, and 88			- 1,113,425
81A	Ballistic Missile Defense Tests		459,200	+ 459,200
	Transfer from Line 81			+ 464,200
	Funding no longer required for move to Reagan Test Site			- 5,000
81B	Ballistic Missile Defense Targets		497,065	+ 497,065
	Transfer from Line 81			+ 517,065
	Contract award delays			- 15,000
	Program growth in Program Operations, Systems Engi- neering and Program Management			- 5,000
82	BMD Enabling Programs	402,769	406,269	+ 3,500
	Transfer from Line 81			+ 43,500
	Excessive contractor support, advisory services, and pro- gram growth			- 40,000
83	Special Programs—MDA	270,189	250,189	- 20,000
	Transfer to higher priority near-term MDA procurement programs			- 20,000
84	AEGIS BMD	1,467,278	1,586,278	+ 119,000
	SM-3 Block IIB Development—transfer from Line 28			+ 40,000
	Aegis BMD Upgrades—Navy requested transfer from OPN, Line 109 and OMN			+ 74,000
	Multiple-Target-Tracking Optical Sensor-Array Technology [MOST]			+ 5,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
88	Ballistic Missile Defense Command and Control, Battle Management and Communications	342,625	456,725	+ 114,100
	Transfer from Line 81 for Concurrent Test, Training and Operations			+ 51,400
	Transfer from Line 79 for Concurrent Test, Training and Operations			+ 35,900
	Transfer from Line 79 for TPY-2 C2BMC Fielding			+ 13,000
	Transfer from Line 79 for BMDS Radars Communications Sustainment [TPY-2]			+ 13,800
90	Ballistic Missile Defense Joint Warfighter Support	68,726	58,726	- 10,000
	Duplication of effort with MDA core programs			- 10,000
98	Israeli Cooperative Programs	121,735	209,935	+ 88,200
	Arrow-3			+ 8,200
	Arrow System Improvement Programs			+ 42,000
	Short Range Ballistic Missile Defense (David's Sling)			+ 38,000
101	Department of Defense Corrosion Program	4,802	39,502	+ 34,700
	Department of Defense Corrosion Prevention and Control Program			+ 34,700
102	Department of Defense [DoD] Unmanned Aircraft System [UAS] Common Development	49,292	54,292	+ 5,000
	Center for UAS Research, Education, and Training			+ 5,000
108	AEGIS SM-3 Block IIA Co-Development	318,800	322,800	+ 4,000
	Chemical Vapor Composite Silicon Carbide and Silicon Carbide Corrugated Mirror Processes for the SM-3 Block IIA Telescope			+ 4,000
110	Airborne Infrared [ABIR]	111,671	86,671	- 25,000
	Transfer to higher priority near-term MDA procurement programs			- 25,000
116	Chemical and Biological Defense Program	407,162	304,262	- 102,900
	Bioscavenger Increment II schedule delays			- 12,000
	Decontamination Family of Systems schedule delays			- 9,000
	Next Generation Chemical Standoff Detection schedule delays			- 12,000
	SSI NBCRS growth without acquisition strategy			- 6,000
	TMTI BA 5 unexecutable funding transferred back to S&T at request of the Department			- 65,600
	Joint Services Aircrew Mask [JSAM] Don/Doff In-flight Upgrade			+ 1,700
118	Advanced IT Services Joint Program Office [AITS-JPO]	49,364	23,695	- 25,669
	Technology Initiatives Investment Fund			- 25,669
120	Weapons of Mass Destruction Defeat Capabilities	7,307	11,307	+ 4,000
	Electric Grid Test Bed			+ 4,000
123	Business Transformation Agency R&D Activities	184,131	181,166	- 2,965
	VIPS Increment II contract award in fiscal year 2012			- 2,965
126	Trusted Foundry	35,512	41,512	+ 6,000
	Trusted Foundry			+ 6,000
134	Central Test and Evaluation Investment Development [CTEIP] ...	162,286	170,286	+ 8,000
	Border Security and Defense Systems Research			+ 3,000
	Pacific Region Interoperability Test and Evaluation Capability			+ 5,000
142	Classified Program USD(P)		100,000	+ 100,000
	Classified program adjustment			+ 100,000
156	Defense Technology Analysis	13,858	11,158	- 2,700
	P796: Technical Grand Challenge Program			- 2,700
158	Defense Technical Information Center [DTIC]	61,054	56,054	- 5,000
	Excessive growth			- 5,000
160	Development Test and Evaluation	18,688	36,688	+ 18,000
	Sustainment of fiscal year 2010 level			+ 18,000
165	Joint Staff Analytical Support	23,081	8,081	- 15,000
	Growth without acquisition strategy			- 15,000
168	Support to Information Operations [IO] Capabilities	31,500	37,600	+ 6,100
	Virtual Integrated Support for the Information Operations eNvironment			+ 6,100
170	Cyber Security Initiative	10,000	7,000	- 3,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	Lack of transition partner			- 3,000
174	COCOM Exercise Engagement and Training Transformation [CE2T2]	92,253	57,188	- 35,065
	P 754: Initiatives funded by Services			- 33,315
	P 764: National Program for Small Unit Excellence funding retained after program termination			- 10,250
	Agile Software Capability Intervention			+ 2,000
	Modeling and Simulation Development in Support of National Security Training and Decision Analysis			+ 3,500
	Playas Training and Research Center Joint National Training Experiment			+ 3,000
178	Defense Information System for Security [DISS]	5,522		- 5,522
	Unjustified program			- 5,522
196	Defense Info Infrastructure Engineering and Integration	16,629	36,629	+ 20,000
	Cyber Security Pilot Programs			+ 20,000
206	Global Command and Control System	26,247	25,047	- 1,200
	Fiscal Year 2012 testing			- 1,200
208	Net-Centric Enterprise Services [NCES]	3,366	3,666	+ 300
	Creating an Assured Joint DOD and Interagency Interoperable Net-Centric Enterprise			+ 300
211	Special Applications for Contingencies	16,272	23,772	+ 7,500
	Technology Development for Quiet Tactical UAV			+ 4,000
	UAV/UAS Test Facility			+ 3,500
214	Cyber Security Initiative	501	2,501	+ 2,000
	Secure Procurement Logistics Project			+ 2,000
216	Cyber Security Initiative	2,251	4,251	+ 2,000
	Cyber Security Initiative			+ 2,000
223	Net Centricity	29,831	14,831	- 15,000
	Excessive growth			- 15,000
254	Special Operations Intelligence Systems Development	23,879	29,979	+ 6,100
	Advanced, Long Endurance Unattended Ground Sensor Technologies			+ 2,600
	Camouflage Direction-finding Antennas Program			+ 3,500
255	SOF Operational Enhancements	62,592	66,172	+ 3,580
	Program termination			- 3,920
	ASIC Miniaturization for SOF Sensor & Night Vision Technologies			+ 5,000
	Upgrade of FilmArray bio-threat detection system			+ 2,500
262	SOF Communications Equipment and Electronics Systems	1,922	922	- 1,000
	Execution delays			- 1,000
265	SOF Soldier Protection and Survival Systems	593	2,593	+ 2,000
	Responsive Textiles			+ 2,000
267	SOF Tactical Vehicles	1,994	994	- 1,000
	Change in requirements			- 1,000
268	SOF Rotary Wing Aviation	14,473	36,473	+ 22,000
	MH-60 transfer from Procurement, Defense-Wide, Line 57, at request of SOCOM			+ 22,000
269	SOF Underwater Systems	13,986	15,586	+ 1,600
	Lithium-ion Battery Safety—Detection and Control			+ 1,600
999	Classified Programs	3,832,019	4,178,860	+ 346,841
	Classified Adjustments			+ 314,141
	Armed Forces Health and Food Supply Research			+ 4,000
	Center of Excellence of Geospatial Science (Geospatial Science Initiative)			+ 1,000
	Center for Intelligence and Security Studies [CISS]			+ 3,000
	Collaboration for Improved Missile Assessments			+ 2,500
	Hawaii Advanced Laboratory for Information Integration			+ 3,700
	Initiative to Advance Adaptive Petascale Supercomputing			+ 8,000
	Intelligence Collection Management Tool Follow-on Development			+ 2,500
	NetCentric Intelligence Node-Pacific			+ 3,000
	neu VISION—Intelligent Explosives Detection System			+ 3,000

[In thousands of dollars]

Line	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	The Biological And Chemical Warfare Online Repository of Technical Holdings 2 system [BACWORTH2] .....	.....	.....	+ 2,000

Defense Advanced Research Projects Agency [DARPA].—The fiscal year 2011 budget request for DARPA is \$3,103,271,000, an increase of \$112,000,000 over the fiscal year 2010 appropriated amount. The Committee recognizes the many changes being implemented at DARPA, and recommends the full \$287,600,000 requested for fiscal year 2011 new starts, which is roughly twice the approved amount for new starts in fiscal year 2010. The Committee also recommends full funding of \$226,900,000 to continue new starts that were initiated during fiscal year 2010. Further, the Committee fully funds the Agency's top priorities, such as Global Integrated Intelligence, Surveillance and Reconnaissance programs, and transfers \$40,000,000 to DARPA from the Joint Improvised Explosive Device Defeat Organization [JIEDDO] to accelerate efforts in the area of wide area surveillance development for theater operations.

The Committee recommends adjustments to programs that have been restructured or descoped, are experiencing delays or lack transition partners. In addition, program elements with excessive growth that is not sustained in DARPA's outyear program are reduced without prejudice against specific projects. Therefore, the Director, DARPA is directed to provide to the congressional defense committees, not later than 60 days after enactment of this act, a report detailing by program element and project the application of undistributed reductions. The Committee recommends no rescission of prior year funds.

DARPA Classified Budget Justification Materials.—The Committee notes that despite previously voiced concerns, budget documentation in support of DARPA's classified programs remains insufficient. This is of significant concern to the Committee, particularly given the projected outyear increases in DARPA's classified portfolio. Therefore, the Committee recommends a reduction to these programs in fiscal year 2011.

Corrosion Prevention and Control.—The Committee remains concerned that the Department continues to underfund its corrosion mitigation and prevention requirements. Corrosion reduces mission readiness by limiting asset availability and also impacts safety. The Committee believes the Department needs to invest more in corrosion prevention and mitigation projects in order to better control future year maintenance costs of weapon systems and infrastructure. The fiscal year 2011 budget request for the Department of Defense Corrosion Prevention and Control Program is \$12,306,000, which is below both the fiscal year 2010 budget request of \$13,100,000 and the appropriated amount of \$27,700,000. The budget request is also significantly below the Department's stated requirement of \$47,000,000, as outlined in the Department's annual report to Congress of February 17, 2010. Therefore, the Committee recommends \$34,700,000 above the budget request to fully fund the fiscal year 2011 Corrosion Prevention and Control

program stated requirement and urges the Department to fully fund the requirement in future budget requests.

Developmental Testing and Systems Engineering.—The budget request includes \$48,500,000 for Developmental Testing and Systems Engineering, reflecting increased requirements created by the Weapons Systems Acquisition Reform Act, 2009. The Committee understands that the Department has identified an additional \$18,000,000 unfunded fiscal year 2011 requirement for these efforts. The Committee recommendation provides these funds above the budget request to allow for full implementation of the Weapons Systems Acquisition Reform Act, 2009. However, the Committee is concerned that staffing plans for these offices rely heavily on contractor personnel—roughly 80 percent for Systems Engineering and 66 percent for Developmental Testing. The Committee finds this incongruent with Department of Defense goals to in-source contractor services. When announced, the Department’s in-sourcing initiative cited the over-reliance on contractors as a reason for poor oversight, particularly with respect to the Department’s acquisition programs that have suffered due to the lack of sufficiently trained and qualified in-house personnel. Therefore, the Committee encourages the Director, Defense Research and Engineering to review the staffing plans for these respective offices. While the Committee recognizes a potential short-term need to rely on contractors to meet immediate, near-term requirements, the Committee directs that none of the additional funds provided be applied towards quasi government organizations.

Prompt Global Strike [PGS].—The budget request includes \$239,861,000 to continue development of a Prompt Global Strike capability by experimenting with both winged and conic vehicles. The Committee understands that due to recent test events, the program is currently under review and will likely be restructured in fiscal year 2011, impacting flight tests and program milestones. The Committee recommends full funding of the fiscal year 2011 request, but directs that not more than \$189,000,000 may be obligated until the Department of Defense provides the congressional defense committees the details of the restructured program, to include scheduled development efforts and flight tests for each technology under consideration, solutions being considered for weaponization, and the associated costs to complete the development program for each technology being explored. The Committee further directs that beginning with the fiscal year 2012 budget submission, separate project codes for Hypersonic Test Vehicle-2 [HTV-2], Conventional Strike Missile [CSM] and Advanced Hypersonic Weapon [AHW] efforts shall be established within this program element, to include associated test and telemetry requirements.

High-performance Computing Modernization Program.—The Department of Defense operates six supercomputing resource centers that provide the Department’s scientists and engineers with the resources necessary to solve the most demanding computational problems, to include modeling and simulation of weapon systems. A recent Defense Department study estimates the return on investment from high-performance computing to be above 600 percent. However, the Committee understands that the Department is consid-

ering a reorganization of the current high-performance computing infrastructure and notes that no details were submitted with the budget request in support of any such plans. Therefore, the Committee includes a general provision prohibiting the use of funds for the consolidation or realignment of any Department of Defense Supercomputing Resource Centers.

MISSILE DEFENSE AGENCY

Realignment of Funding Between Program Elements.—Several of the Missile Defense Agency [MDA] program elements contain funds that are managed within another program element, making it difficult for Congress to conduct the necessary oversight. For instance, the Ballistic Missile Defense [BMD] Test and Target line requests funding that is managed by the Test program, the Targets program, the BMD Enabling program, and the BMD Command and Control, Battle Management and Communication program; not one element has direct oversight of the \$1,113,425,000 requested in that program element. Therefore, the Committee recommends several transfers to better align funding to the actual programs that execute those dollars.

Justification Materials.—The Committee has raised concerns annually over the quality of the justification materials provided to Congress from the Missile Defense Agency [MDA]. While the Congress received three volumes of fiscal year 2011 justification material, totaling 2,188 pages, from MDA, it finds the quality lacking.

First, the books are excessively redundant. The entire MDA budget request, by program element, is repeated every few pages. The Committee believes the entire budget request should be printed at the beginning of each volume and that the “Other Program Funding Summary” exhibit should be limited to only those funding amounts included in other program elements that directly relate to the underlying program element.

Second, the presentation of information makes it difficult to track annual funding changes. In the exhibit titled “Accomplishments/Planned Program,” some of the programs have information on the prior fiscal years together, but information on the budget request year is found elsewhere and with different descriptions. Information on other program elements is interspersed throughout the budget justification, making it nearly impossible to examine equivalent activities over a 3-year fiscal period.

Third, the schedules provided do not present adequate detail. Each schedule should display clear timelines for design and development, integration and test, pre-production activities, and production and fielding. The schedules should also indicate the month and year for key events such as acquisition milestones, other decisions and contract awards. Finally, the budget does not clearly indicate the quantities of missiles that will be procured in each fiscal year along with their expected delivery dates. This information is basic to understanding the budget and schedule of implementation for MDA programs.

Since the justification materials have not improved after several years of congressional direction, the Committee directs MDA to include the budget exhibits identified in paragraphs (1) and (2) in the Department of Defense Financial Management Regulation with the

congressional justification materials. For procurement programs requesting more than \$20,000,000 in any fiscal year, submit the P-1, Procurement Program; P-5, Cost Analysis; P-5a, Procurement History and Planning; P-21, Production Schedule; and P-40, Budget Item Justification. For research, development, test and evaluation projects requesting more than \$10,000,000 in any fiscal year, provide the R-1, RDT&E Program; R-2, RDT&E Budget Item Justification; R-3, RDT&E Project Cost Analysis; and R-4, RDT&E Program Schedule Profile. The Committee expects this format to be used in the submission of the fiscal year 2012 President's Budget request to Congress.

In addition to the changes directed for the justification materials, the Committee also is not receiving adequate detailed information from MDA on requests for information in a timely manner or on changes to programs during the year of execution. This information is critical to informing the Congress on MDA's annual budget request, and the Committee urges MDA to find a more transparent and efficient means of delivering information to the congressional defense committees.

Standard Missile-3 [SM-3] Block IIB Missile.—The Aegis Ballistic Missile Defense [BMD] program office together with the Navy have been developing the standard missile series of weapons for nearly half a century and have a proven record of success. The SM-3 Block IIB missile is likely the most significant upgrade to the family of standard missiles. It will play a significant role in MDA's Phased Adaptive Approach program. The Committee is concerned that MDA plans to manage and develop the SM-3 Block IIB missile under the BMD Technology program instead of the Aegis BMD program. The Committee believes that this approach will introduce unnecessary risk in the SM-3 Block IIB development. Therefore, the Committee transfers all funding for the SM-3 Block IIB missile from the BMD Technology program element to the Aegis BMD program element and directs that this program be managed under the Aegis program office.

Directed Energy Research.—The Committee recommends a reduction of \$15,000,000 for directed energy research. The Committee was informed that the Director of Defense Research and Engineering and the High Energy Laser Joint Technology Office would provide a report to Congress in June 2010 with a plan regarding the directed energy projects that would be funded in this program element in fiscal year 2011. After several requests for the information, the Committee still does not have any detail on how these funds will be spent and therefore denies the funding request. This reduction should not come out of sustainment funding for the Airborne Laser Test Bed program.

OPERATIONAL TEST AND EVALUATION, DEFENSE

Appropriations, 2010	\$190,770,000
Budget estimate, 2011	194,910,000
Committee recommendation	194,910,000

The Committee recommends an appropriation of \$194,910,000. This is equal to the budget estimate.

COMMITTEE RECOMMENDED PROGRAM

The following table summarizes the budget estimate for this appropriation, the Committee recommendation, and the Committee recommended adjustments to the budget estimate:

[In thousands of dollars]

	Item	2011 budget estimate	Committee recommendation	Change from budget estimate
	OPERATIONAL TEST & EVAL, DEFENSE			
	RDT&E MANAGEMENT SUPPORT			
1	OPERATIONAL TEST AND EVALUATION	59,430	59,430	.....
2	LIVE FIRE TESTING	12,899	12,899	.....
3	OPERATIONAL TEST ACTIVITIES AND ANALYSES	122,581	122,581	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	194,910	194,910	.....
	TOTAL, OPERATIONAL TEST & EVAL, DEFENSE	194,910	194,910	.....