

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 2014 budget requests a total of \$67,520,236,000 for research, development, test and evaluation appropriations.

SUMMARY OF COMMITTEE ACTION

The Committee recommends research, development, test and evaluation appropriations totaling \$65,806,815,000 for fiscal year 2014. This is \$1,713,421,000 below the budget estimate.

Committee recommended research, development, test and evaluation appropriations for fiscal year 2014 are summarized below:

SUMMARY OF RESEARCH, DEVELOPMENT, TEST AND EVALUATION APPROPRIATIONS

[In thousands of dollars]

Account	2014 budget estimate	Committee recommendation	Change from budget estimate
Research, Development, Test and Evaluation:			
Research, Development, Test and Evaluation, Army	7,989,102	7,576,342	- 412,760
Research, Development, Test and Evaluation, Navy	15,974,780	15,403,145	- 571,635
Research, Development, Test and Evaluation, Air Force	25,702,946	24,945,541	- 757,405
Research, Development, Test and Evaluation, Defense-Wide	17,667,108	17,695,487	+ 28,379
Operational Test and Evaluation, Defense	186,300	186,300	.....
Total	67,520,236	65,806,815	- 1,713,421

RESEARCH, DEVELOPMENT, TEST AND EVALUATION OVERVIEW

Alternative Energy Research.—The Committee continues to believe in the fiscal and operational value of investing in alternative energy research, and recommends an additional \$75,000,000 for Army, Navy and Air Force research and development to continue research of promising alternative energy technologies, such as renewable energies, alternative fuels, and energy efficiencies. The Committee encourages the services to examine opportunities to use the arbitrage of affordable natural gas to enhance their energy usage efficiency. Additional research is needed to improve the efficiency and durability of technologies for advanced natural gas engine and vehicle technologies, fuel storage, and fueling infrastructure. Therefore, the Committee encourages the military services to invest in natural gas vehicle and fueling infrastructure research,

development, and technology demonstrations to address these areas.

Technology Transfer.—The Committee recognizes the importance of transitioning technology between the Federal Government and non-Federal organizations, academia, the nonprofit sector, and State and local governments. Technology transfer ensures that taxpayer investments in research and development are used to benefit the economy and the general public, along with promoting commercialization for small businesses. Further, in fulfilling its responsibility to ensure the full use of the results of the Nation's Federal investment in research and development, the Committee encourages the Department of Defense to place an increased focus on technology transfer programs, which includes allocation of funds, and the streamlining of programs and performance metrics for Federal laboratories.

Small Business Innovative Research.—The Committee recognizes the importance of the Small Business Innovative Research [SBIR] program and its success in commercialization from federally funded research and development projects. The SBIR program creates jobs and encourages domestic small businesses to engage in Federal research and development. The Committee encourages the Department of Defense to place an increased focus on considering SBIR awards to firms that employ fewer than 50 people.

Solar Research in Dry-Dust Areas.—The Committee supports efforts by the Department of Defense to become more energy efficient. These efforts have demonstrated cost savings and are an important part of the 2010 Quadrennial Defense Review and the Department of Defense's Operational Energy Strategy. Renewable energy, including solar, is an important part of these efforts. Fort Bliss recently launched the largest renewable energy project in the military's history—featuring a 20 megawatt solar farm—with the goal of Net Zero emissions on base. The Committee believes solar initiatives are also important for overseas operations, particularly in the Middle East and Africa, where large amounts of energy often need to be transported to theater and in-country supplies are unreliable. However, dry-dust problems can prevent the optimal use of solar energy in some areas. Therefore, the Committee urges the Department of Defense to make research into the use of solar energy in dry-dust regions a priority in fiscal year 2014.

FAA UAS Test Ranges.—The Committee supports the Federal Aviation Administration's ongoing program to establish test sites for civilian unmanned aircraft systems [UAS]. The Committee understands that Department of Defense test ranges are currently operating at capacity due to overwhelming demand for UAS testing and because of continued growth in the UAS industry. Because civilian test sites are limited, DOD sites are serving both defense and civilian industry needs. The FAA's program will serve to bolster testing capacity across the industry and support this important and growing defense capability.

National Network for Manufacturing Innovation.—The Committee supports the administration's initiative to create three new manufacturing institutes including two Department of Defense-led institutes—a digital manufacturing and design institute and a lightweight and modern metals manufacturing institute. The two

Department of Defense-led institutes, part of the administration's larger National Network for Manufacturing Innovation, will address the life cycle of digital data across systems and accelerate the introduction and use of more affordable products made with high strength-to-weight alloys that improve performance and reduce energy consumption. The institutes will increase domestic manufacturing competitiveness and efficiency that is necessary for our national defense by bringing together our Nation's research and development, education, and training activities for a skilled workforce and the deployment of technological innovations in domestic production of goods.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY

Appropriations, 2013 ¹	\$8,665,177,000
Budget estimate, 2014	7,989,102,000
Committee recommendation	7,576,342,000

¹ Does not reflect the March 1, 2013, sequester of funds under Public Law 112-25.

The Committee recommends an appropriation of \$7,576,342,000. This is \$412,760,000 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	2014 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY			
	BASIC RESEARCH			
1	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	21,803	21,803	.....
2	DEFENSE RESEARCH SCIENCES	221,901	221,901	.....
3	UNIVERSITY RESEARCH INITIATIVES	79,359	79,359	.....
4	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	113,662	113,662	.....
	TOTAL, BASIC RESEARCH	436,725	436,725	.....
	APPLIED RESEARCH			
5	MATERIALS TECHNOLOGY	26,585	56,585	+ 30,000
6	SENSORS AND ELECTRONIC SURVIVABILITY	43,170	43,170	.....
7	TRACTOR HIP	36,293	36,293	.....
8	AVIATION TECHNOLOGY	55,615	55,615	.....
9	ELECTRONIC WARFARE TECHNOLOGY	17,585	17,585	.....
10	MISSILE TECHNOLOGY	51,528	51,528	.....
11	ADVANCED WEAPONS TECHNOLOGY	26,162	26,162	.....
12	ADVANCED CONCEPTS AND SIMULATION	24,063	24,063	.....
13	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	64,589	64,589	.....
14	BALLISTICS TECHNOLOGY	68,300	76,300	+ 8,000
15	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY ...	4,490	4,490	.....
16	JOINT SERVICE SMALL ARMS PROGRAM	7,818	7,818	.....
17	WEAPONS AND MUNITIONS TECHNOLOGY	37,798	37,798	.....
18	ELECTRONICS AND ELECTRONIC DEVICES	59,021	59,021	.....
19	NIGHT VISION TECHNOLOGY	43,426	43,426	.....
20	COUNTERMINE SYSTEMS	20,574	30,574	+ 10,000
21	HUMAN FACTORS ENGINEERING TECHNOLOGY	21,339	21,339	.....
22	ENVIRONMENTAL QUALITY TECHNOLOGY	20,316	20,316	.....
23	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	34,209	34,209	.....
24	COMPUTER AND SOFTWARE TECHNOLOGY	10,439	10,439	.....
25	MILITARY ENGINEERING TECHNOLOGY	70,064	70,064	.....
26	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	17,654	17,654	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
27	WARFIGHTER TECHNOLOGY	31,546	31,546	.....
28	MEDICAL TECHNOLOGY	93,340	93,340	.....
	TOTAL, APPLIED RESEARCH	885,924	933,924	+ 48,000
	ADVANCED TECHNOLOGY DEVELOPMENT			
29	WARFIGHTER ADVANCED TECHNOLOGY	56,056	66,056	+ 10,000
30	MEDICAL ADVANCED TECHNOLOGY	62,032	70,032	+ 8,000
31	AVIATION ADVANCED TECHNOLOGY	81,080	81,080	.....
32	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	63,919	63,919	.....
33	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY ...	97,043	152,043	+ 55,000
34	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	5,866	10,866	+ 5,000
35	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	7,800	7,800	.....
36	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	40,416	40,416	.....
37	TRACTOR HIKE	9,166	9,166	.....
38	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	13,627	13,627	.....
39	TRACTOR ROSE	10,667	10,667	.....
41	COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT	15,054	15,054	.....
42	TRACTOR NAIL	3,194	3,194	.....
43	TRACTOR EGGS	2,367	2,367	.....
44	ELECTRONIC WARFARE TECHNOLOGY	25,348	25,348	.....
45	MISSILE AND ROCKET ADVANCED TECHNOLOGY	64,009	84,009	+ 20,000
46	TRACTOR CAGE	11,083	11,083	.....
47	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM ...	180,662	225,662	+ 45,000
48	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY ...	22,806	22,806	.....
49	JOINT SERVICE SMALL ARMS PROGRAM	5,030	5,030	.....
50	NIGHT VISION ADVANCED TECHNOLOGY	36,407	36,407	.....
51	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	11,745	11,745	.....
52	MILITARY ENGINEERING ADVANCED TECHNOLOGY	23,717	23,717	.....
53	ADVANCED TACTICAL COMPUTER SCIENCE & SENSOR TECHNOLOGY	33,012	33,012	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	882,106	1,025,106	+ 143,000
	DEMONSTRATION & VALIDATION			
54	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	15,301	15,301	.....
55	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (SPACE)	13,592	13,592	.....
56	LANDMINE WARFARE AND BARRIER—ADV DEV	10,625	.....	- 10,625
58	TANK AND MEDIUM CALIBER AMMUNITION	30,612	30,612	.....
59	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	49,989	49,989	.....
60	SOLDIER SUPPORT AND SURVIVABILITY	6,703	5,188	- 1,515
61	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM—AD	6,894	6,894	.....
62	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	9,066	9,066	.....
63	ENVIRONMENTAL QUALITY TECHNOLOGY	2,633	2,633	.....
64	WARFIGHTER INFORMATION NETWORK—TACTICAL	272,384	166,384	- 106,000
65	NATO RESEARCH AND DEVELOPMENT	3,874	3,874	.....
66	AVIATION—ADV DEV	5,018	5,018	.....
67	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV	11,556	11,556	.....
69	MEDICAL SYSTEMS—ADV DEV	15,603	15,603	.....
70	SOLDIER SYSTEMS—ADVANCED DEVELOPMENT	14,159	14,159	.....
71	INTEGRATED BROADCAST SERVICE	79	79	.....
72	TECHNOLOGY MATURATION INITIATIVES	55,605	5,130	- 50,475
74	INDIRECT FIRE PROTECTION CAPABILITY INCREMENT 2—INTERC	79,232	79,232	.....
75	INTEGRATED BASE DEFENSE	4,476	4,476	.....
76	ENDURANCE UAVS	28,991	.....	- 28,991
	TOTAL, DEMONSTRATION & VALIDATION	636,392	438,786	- 197,606
	ENGINEERING & MANUFACTURING DEVELOPMENT			
77	AIRCRAFT AVIONICS	76,588	76,588	.....
78	ARMED, DEPLOYABLE OH-58D	73,309	73,309	.....
79	ELECTRONIC WARFARE DEVELOPMENT	154,621	154,621	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
80	JOINT TACTICAL RADIO	31,826	31,826	.....
81	MID-TIER NETWORKING VEHICULAR RADIO	23,341	23,341	.....
82	ALL SOURCE ANALYSIS SYSTEM	4,839	4,839	.....
83	TRACTOR CAGE	23,841	23,841	.....
84	INFANTRY SUPPORT WEAPONS	79,855	90,500	+ 10,645
85	MEDIUM TACTICAL VEHICLES	2,140	2,140	.....
86	JAVELIN	5,002	5,002	.....
87	FAMILY OF HEAVY TACTICAL VEHICLES	21,321	21,321	.....
88	AIR TRAFFIC CONTROL	514	514	.....
93	NIGHT VISION SYSTEMS—SDD	43,405	43,405	.....
94	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	1,939	1,939	.....
95	NON-SYSTEM TRAINING DEVICES—SDD	18,980	18,980	.....
97	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—SDD	18,294	18,294	.....
98	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	17,013	17,013	.....
99	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	6,701	6,701	.....
100	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS)—SDD	14,575	14,575	.....
101	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	27,634	27,634	.....
102	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION	193,748	100,000	— 93,748
103	WEAPONS AND MUNITIONS—SDD	15,721	15,721	.....
104	LOGISTICS AND ENGINEER EQUIPMENT—SDD	41,703	41,703	.....
105	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS—SDD	7,379	7,379	.....
106	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT	39,468	39,468	.....
107	LANDMINE WARFARE/BARRIER—SDD	92,285	92,285	.....
108	ARTILLERY MUNITIONS	8,209	8,209	.....
109	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	22,958	22,958	.....
110	RADAR DEVELOPMENT	1,549	1,549	.....
111	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)	17,342	227	— 17,115
112	FIREFINDER	47,221	20,221	— 27,000
113	SOLDIER SYSTEMS—WARRIOR DEM/VAL	48,477	33,477	— 15,000
114	ARTILLERY SYSTEMS	80,613	121,313	+ 40,700
117	INFORMATION TECHNOLOGY DEVELOPMENT	68,814	68,814	.....
118	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM (A-IMH)	137,290	69,290	— 68,000
119	ARMORED MULTI-PURPOSE VEHICLE	116,298	116,298	.....
120	JOINT TACTICAL NETWORK CENTER	68,148	68,148	.....
121	AMF JOINT TACTICAL RADIO SYSTEM	33,219	33,219	.....
122	JOINT AIR-TO-GROUND MISSILE (JAGM)	15,127	15,127	.....
124	PAC-2/MSE MISSILE	68,843	68,843	.....
125	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)	364,649	369,649	+ 5,000
126	MANNED GROUND VEHICLE	592,201	423,201	— 169,000
127	AERIAL COMMON SENSOR	10,382	10,382	.....
128	NATIONAL CAPABILITIES INTEGRATION	21,143	21,143	.....
129	JOINT LIGHT TACTICAL VEHICLE ENG AND MANUFACTURING	84,230	84,230	.....
130	TROJAN—RH12	3,465	3,465	.....
131	ELECTRONIC WARFARE DEVELOPMENT	10,806	10,806	.....
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	2,857,026	2,523,508	— 333,518
	RDT&E MANAGEMENT SUPPORT			
132	THREAT SIMULATOR DEVELOPMENT	16,934	24,434	+ 7,500
133	TARGET SYSTEMS DEVELOPMENT	13,488	13,488	.....
134	MAJOR T&E INVESTMENT	46,672	46,672	.....
135	RAND ARROYO CENTER	11,919	19,419	+ 7,500
136	ARMY KWAJALEIN ATOLL	193,658	193,658	.....
137	CONCEPTS EXPERIMENTATION PROGRAM	37,158	22,258	— 14,900
139	ARMY TEST RANGES AND FACILITIES	340,659	340,659	.....
140	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	66,061	66,061	.....
141	SURVIVABILITY/LETHALITY ANALYSIS	43,280	43,280	.....
143	AIRCRAFT CERTIFICATION	6,025	6,025	.....
144	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	7,349	7,349	.....
145	MATERIEL SYSTEMS ANALYSIS	19,809	19,809	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
146	EXPLOITATION OF FOREIGN ITEMS	5,941	5,941	.....
147	SUPPORT OF OPERATIONAL TESTING	55,504	55,504	.....
148	ARMY EVALUATION CENTER	65,274	65,274	.....
149	SIMULATION & MODELING FOR ACQ, RQTS, & TNG (SMART)	1,283	1,283	.....
150	PROGRAMWIDE ACTIVITIES	82,035	82,035	.....
151	TECHNICAL INFORMATION ACTIVITIES	33,853	33,853	.....
152	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	53,340	58,340	+ 5,000
153	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	5,193	5,193	.....
154	MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT)	54,175	54,175	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,159,610	1,164,710	+ 5,100
	OPERATIONAL SYSTEMS DEVELOPMENT			
156	MLRS PRODUCT IMPROVEMENT PROGRAM	110,576	96,476	- 14,100
157	LOGISTICS AUTOMATION	3,717	3,717	.....
159	PATRIOT PRODUCT IMPROVEMENT	70,053	29,200	- 40,853
160	AEROSTAT JOINT PROJECT OFFICE	98,450	.....	- 98,450
160A	AEROSTAT EMD .....	.....	60,000	+ 60,000
160B	AEROSTAT COCOM EXERCISE .....	.....	38,450	+ 38,450
161	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	30,940	25,520	- 5,420
162	COMBAT VEHICLE IMPROVEMENT PROGRAMS	177,532	177,532	.....
163	MANEUVER CONTROL SYSTEM	36,495	36,495	.....
164	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	257,187	239,824	- 17,363
165	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	315	315	.....
166	DIGITIZATION	6,186	6,186	.....
168	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	1,578	1,578	.....
169	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	62,100	62,100	.....
171	TRACTOR CARD	18,778	18,778	.....
	JOINT TACTICAL GROUND SYSTEM	7,108	7,108	.....
173	SECURITY AND INTELLIGENCE ACTIVITIES	7,600	7,600	.....
174	INFORMATION SYSTEMS SECURITY PROGRAM	9,357	9,357	.....
176	GLOBAL COMBAT SUPPORT SYSTEM	41,225	41,225	.....
177	SATCOM GROUND ENVIRONMENT (SPACE)	18,197	18,197	.....
178	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	14,215	14,215	.....
179	TACTICAL UNMANNED AERIAL VEHICLES	33,533	33,533	.....
180	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	27,622	27,622	.....
182	MQ-1 SKY WARRIOR A UAV	10,901	10,901	.....
183	RQ-11 UAV	2,321	2,321	.....
184	RQ-7 UAV	12,031	12,031	.....
186	BIOMETRICS ENABLED INTELLIGENCE	12,449	12,449	.....
187	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	56,136	56,136	.....
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	1,126,602	1,048,866	- 77,736
	CLASSIFIED PROGRAMS	4,717	4,717	.....
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY	7,989,102	7,576,342	- 412,760

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Item	2013 budget estimate	Committee recommendation	Change from budget estimate
5	Materials Technology	26,585	56,585	+ 30,000
	Materials research and technology .....	.....	.....	+ 15,000
	Nanotechnology research .....	.....	.....	+ 5,000
	Silicon carbide research .....	.....	.....	+ 10,000

[In thousands of dollars]

Line	Item	2013 budget estimate	Committee recommendation	Change from budget estimate
14	Ballistics Technology	68,300	76,300	+ 8,000
	Authorization adjustment: WIAMAN schedule adjustment			+ 8,000
20	Countermine Systems	20,574	30,574	+ 10,000
	Unexploded ordnance and landmine detection research			+ 10,000
29	Warfighter Advanced Technology	56,056	66,056	+ 10,000
	Program increase			+ 10,000
30	Medical Advanced Technology	62,032	70,032	+ 8,000
	Military Burn Research Program			+ 8,000
33	Combat Vehicle and Automotive Advanced Technology	97,043	152,043	+ 55,000
	Alternative energy research			+ 25,000
	Program increase			+ 30,000
34	Space Application Advanced Technology	5,866	10,866	+ 5,000
	Program increase			+ 5,000
45	Missile and Rocket Advanced Technology	64,009	84,009	+ 20,000
	Restore unjustified reduction			+ 20,000
47	High Performance Computing Modernization Program	180,662	225,662	+ 45,000
	Restore unjustified reduction			+ 45,000
56	Landmine Warfare and Barrier—Adv Dev	10,625		— 10,625
	Restoring acquisition accountability: Forward Reconnaissance and Explosive Hazard Detection (FREHD) program deferred by the Army			— 10,625
60	Soldier Support and Survivability	6,703	5,188	— 1,515
	Restoring acquisition accountability: Rapid Equipping Force non-base budget program			— 1,515
64	Warfighter Information Network-Tactical—DEM/VAL	272,384	166,384	— 106,000
	Maintaining program affordability: Increment III excessive growth			— 106,000
72	Technology Maturation Initiatives	55,605	5,130	— 50,475
	Maintaining program affordability: DS3 unjustified request			— 40,986
	Improving funds management: DX1 excess carry-over			— 9,489
76	Endurance UAVs	28,991		— 28,991
	Program termination: LEMV			— 28,991
84	Infantry Support Weapons	79,855	90,500	+ 10,645
	Restoring acquisition accountability: S62 Counter-Defilade Target Engagement—transfer from WTCV at request of Army for corrective actions			+ 11,000
	Restoring acquisition accountability: S63 Individual Carbine program terminated by Army			— 355
102	Brigade Analysis, Integration and Evaluation	193,748	100,000	— 93,748
	Maintaining program affordability: NIE excessive costs			— 93,748
111	General Fund Enterprise Business System [GFEBs]	17,342	227	— 17,115
	Improving funds management: DV6 GFEBs—SA—Fully funded in fiscal year 2013, per Army request			— 17,115
112	Firefinder	47,221	20,221	— 27,000
	Improving funds management: P3I program delays ..			— 27,000
113	Soldier Systems—Warrior Dem/Val	48,477	33,477	— 15,000
	Maintaining program affordability: S75 excessive costs			— 15,000
114	Artillery Systems—EMD	80,613	121,313	+ 40,700
	Restoring acquisition accountability: Transfer from WTCV for Paladin at Army request			+ 40,700
118	Integrated Personnel and Pay System-Army [IPPS-A]	137,290	69,290	— 68,000
	Restoring acquisition accountability: Increment II excessive delays			— 68,000
125	Army Integrated Air and Missile Defense [AIAMD]	364,649	369,649	+ 5,000
	Program increase for cyber security and supply chain risk management			+ 5,000
126	Manned Ground Vehicle	592,201	423,201	— 169,000

[In thousands of dollars]

Line	Item	2013 budget estimate	Committee recommendation	Change from budget estimate
	Restoring acquisition accountability: Excess technology development undefinitized contract extension funding			-99,000
	Maintaining program affordability: Excessive funding for prototypes			-70,000
132	Threat Simulator Development	16,934	24,434	+7,500
	Cyber test and evaluation enterprise infrastructure ..			+7,500
135	Rand Arroyo Center	11,919	19,419	+7,500
	Restore unjustified reduction			+7,500
137	Concepts Experimentation Program	37,158	22,258	-14,900
	Reducing duplication: Project 317 contractor growth			-14,900
152	Munitions Standardization, Effectiveness and Safety	53,340	58,340	+5,000
	Program increase			+5,000
156	MLRS Product Improvement Program	110,576	96,476	-14,100
	Restoring acquisition accountability: Project 78G firm fixed price contract cost growth			-14,100
159	Patriot Product Improvement	70,053	29,200	-40,853
	Restoring acquisition accountability: Only for near-term urgent improvements			-40,853
160	Aerostat Joint Project Office	98,450		-98,450
	Restoring acquisition accountability: Transfer to lines 160A and 160B for oversight			-98,450
160A	Aerostat Joint Program Office: Conclusion of EMD effort only		60,000	+60,000
	Restoring acquisition accountability: Transfer from line 160 for conclusion of EMD effort only			+60,000
160B	Aerostat Joint Program Office: COCOM exercise only		38,450	+38,450
	Restoring acquisition accountability: Transfer from line 160 for COCOM exercise only			+38,450
161	Adv Field Artillery Tactical Data System	30,940	25,520	-5,420
	Improving funds management: Increment 2 Army identified excess			-5,420
164	Aircraft Modifications/Product Improvement Programs	257,187	239,824	-17,363
	Improving funds management: Project 430 Block II excess carryover			-17,363

Warfighter Information Network-Tactical [WIN-T] Increment III.—The fiscal year 2014 budget request includes \$271,284,000 for WIN-T Increment III, an increase of \$92,652,000 over amounts appropriated for fiscal year 2013, and an increase of \$195,032,000 over amounts previously programmed for fiscal year 2014. In the fiscal year 2014 budget submission, the Army has also programmed an additional \$249,608,000 over amounts previously programmed for fiscal year 2015. The Committee questions the fiscal soundness of adding close to \$450,000,000 to this program in the next 2 fiscal years. The Committee notes that a follow-on development contract award scheduled for earlier this year has been delayed and that the program's acquisition program baseline is expected to be revised later this year. Therefore, the Committee finds this increase in resources premature and recommends continuing the program at fiscal year 2013 levels.

Army Network Integrated Evaluation [NIE].—The fiscal year 2014 budget request includes \$193,748,000 for two Network Integrated Evaluations [NIE], which are semi-annual assessments and formal test events of network technologies in the context of a military exercise. The Committee notes that to date, the Army has con-

ducted five such events, which include formal development and operational tests of programs of record, as well as informal evaluations of Government- or contractor-provided systems in response to Army-identified capability gaps. As confirmed in a Government Accountability Office August 2013 report assessing the NIE, the Committee is not aware of significant successful technology transitions of the over 100 systems evaluated at the NIE to date, despite additional funds having been provided by Congress specifically for that purpose. The Committee further notes that the Army has not been able to execute previously appropriated funding for the NIE and has reprogrammed or carried-over over 90 percent of total fiscal year 2012 and fiscal year 2013 funding. Given the fiscal constraints the Army is facing, the Committee questions the return on investment for NIE in its current form. Therefore, the Committee recommends reducing the scope of the NIE, allowing the Army and vendors to prioritize their investments to support Army requirements.

Ground Combat Vehicle [GCV].—The fiscal year 2014 budget request includes \$592,201,000 for the Ground Combat Vehicle. The program was restructured earlier this year using previously appropriated funds. As part of the program's restructure, the Army awarded two undefinitized contract actions [UCAs] in April 2013, which it plans to definitize by December 2013. The Committee notes the historically measurable cost growth of UCAs on development programs, as restated in the Department's 2013 annual report on the performance of the Department of Defense acquisition system. The Army has budgeted over \$140,000,000 for these contracts in fiscal year 2014, which due to the fiscal year 2013 funds already applied to the UCAs is excess to stated requirements. Therefore, the Committee recommends a reduction of \$99,000,000 to the budget request for undefinitized contract actions. In addition, the Army is planning to spend over \$470,000,000 over the next 3 fiscal years for the fabrication of 12 GCV prototypes. While the Committee recognizes the value of certain prototype activities during the development phase of the program, the acquisition strategy and funding profile would expend close to \$40,000,000 per individual prototype vehicle. Therefore, the Committee denies the \$70,000,000 requested for prototypes in fiscal year 2014. The Committee notes that none of these adjustments affect the Government program office, nor do they impede the Army's ability to award the GCV engineering and manufacturing development contract in September 2014, as planned.

Improved Military Tactical Batteries.—The Committee continues to be concerned with the high operational and maintenance costs, and performance issues related to the short life of standard military vehicle batteries. The Committee encourages the Army to continue efforts designed to capture cost savings and performance improvements through storage and operation of military vehicle batteries.

Prototype Integration Facility.—The Army prototype integration facility [PIF] remains a key, award-winning enterprise asset. The Committee notes that since 2002, the PIF has executed in excess of \$3,100,000,000 in rapid response, quick reaction, and high-priority weapons system hardware and services support to the

warfighter. The PIF does not receive mission or program budget funds and relies on customer funding to execute specific weapon system program requirements. The Committee encourages the Army to continue to support upgrades to the PIF and to maintain the fast-response capability of the PIF so that this unique and valuable asset will be available to the warfighter to address current and future needs.

Engineering Systems Integration Labs.—The Committee is aware of new technologies for the development and evaluation of new weapon systems that can reduce costs and serve as an effective platform for integrating advanced technology into a weapon system. The use of Engineering Systems Integration Labs [ESILs] has already proven valuable where they have been utilized. The Committee urges the Army, in conjunction with industry, to implement ESILs for all major weapon systems, including legacy systems modernization programs.

Cybersecurity of Space Assets.—The Committee understands it is an Army priority to augment its capability for cybersecurity research on net-centric embedded weapon systems and to research and evaluate technologies for space-based and cyberspace applications for Army tactical ground forces. The Army's strategic forces mission requirements include maintaining Army force modernization in space. The Committee encourages the Army to apply the appropriate resources to ensure cyberspace technologies research for the security of space assets, which in turn ensures our warfighters can receive critical information in a battlefield environment. Leveraging existing personnel and recently acquired technology development management programs can provide services such as mitigation strategies to agencies that develop, acquire, and maintain space and net-centric weapons assets, to include the Missile Defense Agency.

Warfighter Helmets.—The high prevalence of warfighters returning from theater with short- and long-term brain injury is indicative of Traumatic Brain Injury [TBI], and is a major concern to the Committee. The Committee is aware of the physical, emotional, psychological, social, and financial cost associated with these type injuries. Therefore, the Committee urges the Army Research Laboratory, in partnership with public universities across the country, to leverage commercially available technology for improved soldier-worn equipment, particularly, pneumatic cushioning systems in military combat helmets, to protect the health and safety of the warfighter.

Wireless Medical Technology.—The Committee supports initiatives to improve casualty care of personnel through the development of wireless medical monitoring systems with enhanced data collection capabilities out to the point of wounding. The Committee encourages the Army to utilize these wireless medical technologies in demonstrations, operational evaluations, and deployments in order to provide greater patient care.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY

Appropriations, 2013¹ \$16,941,012,000
 Budget estimate, 2014 15,974,780,000
 Committee recommendation 15,403,145,000

¹ Does not reflect the March 1, 2013, sequester of funds under Public Law 112-25.

The Committee recommends an appropriation of \$15,403,145,000. This is \$571,635,000 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	2014 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY			
	BASIC RESEARCH			
1	UNIVERSITY RESEARCH INITIATIVES	112,617	112,617	.....
2	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	18,230	18,230	.....
3	DEFENSE RESEARCH SCIENCES	484,459	489,459	+ 5,000
	TOTAL, BASIC RESEARCH	615,306	620,306	+ 5,000
	APPLIED RESEARCH			
4	POWER PROJECTION APPLIED RESEARCH	104,513	104,513	.....
5	FORCE PROTECTION APPLIED RESEARCH	145,307	170,307	+ 25,000
6	MARINE CORPS LANDING FORCE TECHNOLOGY	47,334	47,334	.....
7	COMMON PICTURE APPLIED RESEARCH	34,163	34,163	.....
8	WARFIGHTER SUSTAINMENT APPLIED RESEARCH	49,689	49,689	.....
9	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	97,701	97,701	.....
10	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	45,685	45,685	.....
11	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,060	6,060	.....
12	UNDERSEA WARFARE APPLIED RESEARCH	103,050	103,050	.....
13	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEV	169,710	169,710	.....
14	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	31,326	31,326	.....
	TOTAL, APPLIED RESEARCH	834,538	859,538	+ 25,000
	ADVANCED TECHNOLOGY DEVELOPMENT			
15	POWER PROJECTION ADVANCED TECHNOLOGY	48,201	48,201	.....
16	FORCE PROTECTION ADVANCED TECHNOLOGY	28,328	28,328	.....
19	ELECTROMAGNETIC SYSTEMS ADVANCED TECHNOLOGY	56,179	56,179	.....
20	MARINE CORPS ADVANCED TECHNOLOGY DEMONSTRATION (ATD)	132,400	132,400	.....
21	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT	11,854	11,854	.....
22	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEV	247,931	247,931	.....
23	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	4,760	4,760	.....
25	NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	51,463	51,463	.....
26	MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY ..	2,000	2,000	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	583,116	583,116	.....
	DEMONSTRATION & VALIDATION			
27	AIR/OCEAN TACTICAL APPLICATIONS	42,246	42,246	.....
28	AVIATION SURVIVABILITY	5,591	5,591	.....
29	DEPLOYABLE JOINT COMMAND AND CONTROL	3,262	3,262	.....
30	AIRCRAFT SYSTEMS	74	74	.....
31	ASW SYSTEMS DEVELOPMENT	7,964	7,964	.....
32	TACTICAL AIRBORNE RECONNAISSANCE	5,257	5,257	.....
33	ADVANCED COMBAT SYSTEMS TECHNOLOGY	1,570	1,570	.....
34	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	168,040	168,040	.....
35	SURFACE SHIP TORPEDO DEFENSE	88,649	88,649	.....
36	CARRIER SYSTEMS DEVELOPMENT	83,902	83,902	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
37	PILOT FISH	108,713	108,713	.....
38	RETRACT LARCH	9,316	9,316	.....
39	RETRACT JUNIPER	77,108	77,108	.....
40	RADIOLOGICAL CONTROL	762	762	.....
41	SURFACE ASW	2,349	2,349	.....
42	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	852,977	827,977	- 25,000
43	SUBMARINE TACTICAL WARFARE SYSTEMS	8,764	8,764	.....
44	SHIP CONCEPT ADVANCED DESIGN	20,501	20,501	.....
45	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	27,052	27,052	.....
46	ADVANCED NUCLEAR POWER SYSTEMS	428,933	428,933	.....
47	ADVANCED SURFACE MACHINERY SYSTEMS	27,154	22,902	- 4,252
48	CHALK EAGLE	519,140	519,140	.....
49	LITTORAL COMBAT SHIP (LCS)	406,389	202,618	- 203,771
	LITTORAL COMBAT SHIP (LCS) MISSION PACKAGES .....	.....	203,771	+ 203,771
50	COMBAT SYSTEM INTEGRATION	36,570	18,470	- 18,100
51	CONVENTIONAL MUNITIONS	8,404	8,404	.....
52	MARINE CORPS ASSAULT VEHICLES	136,967	122,967	- 14,000
53	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	1,489	1,489	.....
54	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	38,422	38,422	.....
55	COOPERATIVE ENGAGEMENT	69,312	64,012	- 5,300
56	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	9,196	7,696	- 1,500
57	ENVIRONMENTAL PROTECTION	18,850	18,850	.....
58	NAVY ENERGY PROGRAM	45,618	45,618	.....
59	FACILITIES IMPROVEMENT	3,019	3,019	.....
60	CHALK CORAL	144,951	144,951	.....
61	NAVY LOGISTIC PRODUCTIVITY	5,797	5,797	.....
62	RETRACT MAPLE	308,131	289,031	- 19,100
63	LINK PLUMERIA	195,189	176,189	- 19,000
64	RETRACT ELM	56,358	56,358	.....
65	LINK EVERGREEN	55,378	55,378	.....
66	SPECIAL PROCESSES	48,842	48,842	.....
67	NATO RESEARCH AND DEVELOPMENT	7,509	7,509	.....
68	LAND ATTACK TECHNOLOGY	5,075	.....	- 5,075
69	NONLETHAL WEAPONS	51,178	51,178	.....
70	JOINT PRECISION APPROACH AND LANDING SYSTEMS	205,615	194,719	- 10,896
72	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES	37,227	37,227	.....
73	ASE SELF-PROTECTION OPTIMIZATION	169	169	.....
74	JOINT COUNTER RADIO CONTROLLED IED ELECTRONIC WARFARE	20,874	20,874	.....
75	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM	2,257	2,257	.....
76	SPACE & ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINE	38,327	38,327	.....
77	OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT	135,985	105,985	- 30,000
78	JOINT LIGHT TACTICAL VEHICLE ENGINEERING/MANUFACTURING	50,362	50,362	.....
79	ASW SYSTEMS DEVELOPMENT—MIP	8,448	4,908	- 3,540
80	ELECTRONIC WARFARE DEVELOPMENT—MIP	153	153	.....
	TOTAL, DEMONSTRATION & VALIDATION	4,641,385	4,485,622	- 155,763
	ENGINEERING & MANUFACTURING DEVELOPMENT			
81	OTHER HELO DEVELOPMENT	40,558	40,558	.....
82	AV-8B AIRCRAFT—ENG DEV	35,825	33,325	- 2,500
83	STANDARDS DEVELOPMENT	99,891	99,891	.....
84	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	17,565	17,565	.....
85	AIR/OCEAN EQUIPMENT ENGINEERING	4,026	4,026	.....
86	P-3 MODERNIZATION PROGRAM	1,791	.....	- 1,791
87	WARFARE SUPPORT SYSTEM	11,725	11,725	.....
88	TACTICAL COMMAND SYSTEM	68,463	68,463	.....
89	ADVANCED HAWKEYE	152,041	124,041	- 28,000
90	H-1 UPGRADES	47,123	47,123	.....
91	ACOUSTIC SEARCH SENSORS	30,208	30,208	.....
92	V-22A	43,084	43,084	.....
93	AIR CREW SYSTEMS DEVELOPMENT	11,401	11,401	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
94	EA-18	11,138	11,138	.....
95	ELECTRONIC WARFARE DEVELOPMENT	34,964	34,964	.....
96	VH-71A EXECUTIVE HELO DEVELOPMENT	94,238	94,238	.....
97	NEXT GENERATION JAMMER (NGJ)	257,796	257,796	.....
98	JOINT TACTICAL RADIO SYSTEM—NAVY (JTRS—NAVY)	3,302	3,302	.....
99	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	240,298	225,298	— 15,000
100	LPD-17 CLASS SYSTEMS INTEGRATION	1,214	1,214	.....
101	SMALL DIAMETER BOMB (SDB)	46,007	46,007	.....
102	STANDARD MISSILE IMPROVEMENTS	75,592	75,592	.....
103	AIRBORNE MCM	117,854	117,854	.....
104	MARINE AIR GROUND TASK FORCE ELECTRONIC WARFARE	10,080	10,080	.....
105	NAVAL INTEGRATED FIRE CONTROL-COUNTER AIR SYSTEMS ENG	21,413	21,413	.....
106	FUTURE UNMANNED CARRIER-BASED STRIKE SYSTEM	146,683	133,683	— 13,000
107	ADVANCED ABOVE WATER SENSORS	275,871	188,871	— 87,000
108	SSN-688 AND TRIDENT MODERNIZATION	89,672	89,672	.....
109	AIR CONTROL	13,754	13,754	.....
110	SHIPBOARD AVIATION SYSTEMS	69,615	69,615	.....
112	NEW DESIGN SSN	121,566	61,696	— 59,870
113	SUBMARINE TACTICAL WARFARE SYSTEM	49,143	49,143	.....
114	SHIP CONTRACT DESIGN/LIVE FIRE T&E	155,254	205,254	+ 50,000
115	NAVY TACTICAL COMPUTER RESOURCES	3,689	3,689	.....
116	MINE DEVELOPMENT	5,041	5,041	.....
117	LIGHTWEIGHT TORPEDO DEVELOPMENT	26,444	26,444	.....
118	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	8,897	8,897	.....
119	PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS	6,233	4,233	— 2,000
120	JOINT STANDOFF WEAPON SYSTEMS	442	442	.....
121	SHIP SELF DEFENSE (DETECT & CONTROL)	130,360	119,610	— 10,750
122	SHIP SELF DEFENSE (ENGAGE: HARD KILL)	50,209	46,025	— 4,184
123	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	164,799	114,799	— 50,000
124	INTELLIGENCE ENGINEERING	1,984	1,984	.....
125	MEDICAL DEVELOPMENT	9,458	9,458	.....
126	NAVIGATION/ID SYSTEM	51,430	51,430	.....
127	JOINT STRIKE FIGHTER (JSF)—EMD	512,631	492,631	— 20,000
128	JOINT STRIKE FIGHTER (JSF)	534,187	514,187	— 20,000
129	INFORMATION TECHNOLOGY DEVELOPMENT	5,564	5,564	.....
130	INFORMATION TECHNOLOGY DEVELOPMENT	69,659	62,823	— 6,836
132	CH-53K	503,180	471,280	— 31,900
133	JOINT AIR-TO-GROUND MISSILE (JAGM)	5,500	.....	— 5,500
134	MULTI-MISSION MARITIME AIRCRAFT (MMA)	317,358	240,358	— 77,000
135	DDG-1000	187,910	187,910	.....
136	TACTICAL COMMAND SYSTEM—MIP	2,140	2,140	.....
137	TACTICAL CRYPTOLOGIC SYSTEMS	9,406	9,406	.....
138	SPECIAL APPLICATIONS PROGRAM	22,800	22,800	.....
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	5,028,476	4,643,145	— 385,331
	RDT&E MANAGEMENT SUPPORT			
139	THREAT SIMULATOR DEVELOPMENT	43,261	43,261	.....
140	TARGET SYSTEMS DEVELOPMENT	71,872	71,872	.....
141	MAJOR T&E INVESTMENT	38,033	38,033	.....
142	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION	1,352	1,352	.....
143	STUDIES AND ANALYSIS SUPPORT—NAVY	5,566	5,566	.....
144	CENTER FOR NAVAL ANALYSES	48,345	48,345	.....
146	TECHNICAL INFORMATION SERVICES	637	637	.....
147	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	76,585	84,585	+ 8,000
148	STRATEGIC TECHNICAL SUPPORT	3,221	3,221	.....
149	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	72,725	72,725	.....
150	RDT&E SHIP AND AIRCRAFT SUPPORT	141,778	141,778	.....
151	TEST AND EVALUATION SUPPORT	331,219	281,219	— 50,000
152	OPERATIONAL TEST AND EVALUATION CAPABILITY	16,565	16,565	.....
153	NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT	3,265	3,265	.....
154	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	7,134	7,134	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
155	MARINE CORPS PROGRAM WIDE SUPPORT	24,082	24,082	.....
156	TACTICAL CRYPTOLOGIC ACTIVITIES	497	497	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	886,137	844,137	- 42,000
	OPERATIONAL SYSTEMS DEVELOPMENT			
159	HARPOON MODIFICATIONS	699	699	.....
160	UNMANNED COMBAT AIR VEHICLE (UCAV) ADVANCED COMPO- NENT	20,961	20,961	.....
162	MARINE CORPS DATA SYSTEMS	35	35	.....
163	CARRIER ONBOARD DELIVERY FOLLOW ON	2,460	2,460	.....
164	STRIKE WEAPONS DEVELOPMENT	9,757	11,757	+ 2,000
165	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	98,057	98,057	.....
166	SSBN SECURITY TECHNOLOGY PROGRAM	31,768	31,768	.....
167	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	1,464	1,464	.....
168	NAVY STRATEGIC COMMUNICATIONS	21,729	21,729	.....
169	RAPID TECHNOLOGY TRANSITION (RTT)	13,561	13,561	.....
170	F/A-18 SQUADRONS	131,118	131,118	.....
171	E-2 SQUADRONS	1,971	1,971	.....
172	FLEET TELECOMMUNICATIONS (TACTICAL)	46,155	34,423	- 11,732
173	SURFACE SUPPORT	2,374	2,374	.....
174	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC)	12,407	12,407	.....
175	INTEGRATED SURVEILLANCE SYSTEM	41,609	41,609	.....
176	AMPHIBIOUS TACTICAL SUPPORT UNITS	7,240	4,682	- 2,558
177	GROUND/AIR TASK ORIENTED RADAR	78,208	78,208	.....
178	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	45,124	45,124	.....
179	CRYPTOLOGIC DIRECT SUPPORT	2,703	2,703	.....
180	ELECTRONIC WARFARE (EW) READINESS SUPPORT	19,563	19,563	.....
181	HARM IMPROVEMENT	13,586	13,586	.....
182	TACTICAL DATA LINKS	197,538	197,538	.....
183	SURFACE ASW COMBAT SYSTEM INTEGRATION	31,863	31,863	.....
184	MK-48 ADCAP	12,806	10,106	- 2,700
185	AVIATION IMPROVEMENTS	88,607	88,607	.....
187	OPERATIONAL NUCLEAR POWER SYSTEMS	116,928	116,928	.....
188	MARINE CORPS COMMUNICATIONS SYSTEMS	178,753	178,753	.....
189	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	139,594	118,719	- 20,875
190	MARINE CORPS COMBAT SERVICES SUPPORT	42,647	35,647	- 7,000
191	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS (MIP)	34,394	34,394	.....
192	TACTICAL AIM MISSILES	39,159	31,159	- 8,000
193	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	2,613	2,613	.....
194	JOINT HIGH SPEED VESSEL (JHSV)	986	986	.....
199	SATELLITE COMMUNICATIONS (SPACE)	66,231	66,231	.....
200	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES	24,476	24,476	.....
201	INFORMATION SYSTEMS SECURITY PROGRAM	23,531	23,531	.....
206	NAVY METEOROLOGICAL AND OCEAN SENSORS—SPACE (METOC)	742	742	.....
207	JOINT MILITARY INTELLIGENCE PROGRAMS	4,804	4,804	.....
208	TACTICAL UNMANNED AERIAL VEHICLES	8,381	8,381	.....
211	DISTRIBUTED COMMON GROUND SYSTEMS/SURFACE SYSTEMS ..	5,535	5,535	.....
212	DISTRIBUTED COMMON GROUND SYSTEMS/SURFACE SYSTEMS ..	19,718	19,718	.....
213	RQ-4 UAV	375,235	375,235	.....
214	MQ-8 UAV	48,713	48,713	.....
215	RQ-11 UAV	102	.....	- 102
216	RQ-7 UAV	710	710	.....
217	SMALL (LEVEL 0) TACTICAL UAS (STUASLO)	5,013	5,013	.....
219	RQ-21A	11,122	9,122	- 2,000
220	MULTI-INTELLIGENCE SENSOR DEVELOPMENT	28,851	28,851	.....
221	MODELING AND SIMULATION SUPPORT	5,116	5,116	.....
222	DEPOT MAINTENANCE (NON-IF)	28,042	28,042	.....
223	INDUSTRIAL PREPAREDNESS	50,933	50,933	.....
224	MARITIME TECHNOLOGY (MARITECH)	4,998	4,998	.....

[In thousands of dollars]

Item	2014 budget estimate	Committee recommendation	Change from budget estimate
TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	2,200,690	2,147,723	- 52,967
CLASSIFIED PROGRAMS	1,185,132	1,219,558	+ 34,426
TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY	15,974,780	15,403,145	- 571,635

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
3	Defense Research Sciences	484,459	489,459	+ 5,000
	Nanotechnology research			+ 5,000
5	Force Protection Applied Research	145,307	170,307	+ 25,000
	Alternative energy research			+ 25,000
42	Advanced Submarine System Development	852,977	827,977	- 25,000
	Improving funds management: Unobligated balances for early to need affordability initiatives			- 25,000
47	Advanced Surface Machinery Systems	27,154	22,902	- 4,252
	Improving funds management: Behind in execution			- 4,252
49	Littoral Combat Ship [LCS]	406,389	202,618	- 203,771
	Transfer to Line 49X			- 203,771
49X	Littoral Combat Ship [LCS] Mission Packages		203,771	+ 203,771
	Transfer from Line 49			+ 203,771
50	Combat System Integration	36,570	18,470	- 18,100
	Restoring acquisition accountability: Late contract awards			- 18,100
52	Marine Corps Assault Vehicles	136,967	122,967	- 14,000
	Improving funds management: Forward financed			- 14,000
55	Cooperative Engagement (CEC)	69,312	64,012	- 5,300
	Restoring acquisition accountability: Program delay			- 5,300
56	Ocean Engineering Technology Development	9,196	7,696	- 1,500
	Improving funds management: Forward financed			- 1,500
62	RETRACT MAPLE	308,131	289,031	- 19,100
	Improving funds management: Early to need			- 19,100
63	LINK PLUMERIA	195,189	176,189	- 19,000
	Improving funds management: Milestone slips			- 4,000
	Improving funds management: Milestone slips			- 15,000
68	Land Attack Technology	5,075	—	- 5,075
	Improving funds management: Early to need			- 5,075
70	Joint Precision Approach and Landing Systems—Dem/Val	205,615	194,719	- 10,896
	Restoring acquisition accountability: JPALS 1B test early to need			- 3,459
	Restoring acquisition accountability: JPALS 1B follow-on platform integration delay			- 7,437
77	Offensive Anti-Surface Warfare Weapon Development	135,985	105,985	- 30,000
	Restoring acquisition accountability: Program delay			- 30,000
79	ASW Systems Development—MIP	8,448	4,908	- 3,540
	Restoring acquisition accountability: Program delay			- 3,540
82	AV-8B Aircraft—Eng Dev	35,825	33,325	- 2,500
	Maintaining program affordability: Excess program management			- 2,500
86	P-3 Modernization Program	1,791	—	- 1,791
	Program termination: Program is in retirement phase			- 1,791
89	Advanced Hawkeye	152,041	124,041	- 28,000
	Restoring acquisition accountability: Undefined follow on development for in-flight refueling			- 28,000
99	Surface Combatant Combat System Engineering (Aegis)	240,298	225,298	- 15,000

[In thousands of dollars]

Line	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
	Restoring acquisition accountability: Schedule delay			- 15,000
106	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	146,683	133,683	- 13,000
	Restoring acquisition accountability: Schedule delay			- 13,000
107	Advanced Above Water Sensors	275,871	188,871	- 87,000
	Restoring acquisition accountability: AMDR MS B 8 month schedule delay			- 87,000
112	New Design SSN	121,566	61,696	- 59,870
	Program termination: VA class module program terminated due to affordability			- 59,870
114	Ship Contract Design/Live Fire T&E	155,254	205,254	+ 50,000
	Increased LHA-8 design efforts			+ 50,000
119	Personnel, Training, Simulation, and Human Factors	6,233	4,233	- 2,000
	Improving funds management: Prior year carry over			- 2,000
121	Ship Self Defense (Detect & Control)	130,360	119,610	- 10,750
	Restoring acquisition accountability: DT/OT schedule delayed from previous year			- 10,750
122	Ship Self Defense (Engage: Hard Kill)	50,209	46,025	- 4,184
	Restoring acquisition accountability: RAM testing delays			- 4,184
123	Ship Self Defense (Engage: Soft Kill/EW)	164,799	114,799	- 50,000
	Restoring acquisition accountability: Block 3 EMD award delay			- 50,000
127	Joint Strike Fighter (JSF)—EMD	512,631	492,631	- 20,000
	Maintain program affordability: F-135 Propulsion system cost growth			- 10,000
	Restoring acquisition accountability: Follow-on development—no approved capabilities development document			- 5,000
	Restoring acquisition accountability: Development test and evaluation—no approved capabilities development document			- 5,000
128	Joint Strike Fighter (JSF)—EMD	534,187	514,187	- 20,000
	Maintain program affordability: F-135 Propulsion system cost growth			- 10,000
	Restoring acquisition accountability: Follow-on development—no approved capabilities development document			- 5,000
	Restoring acquisition accountability: Development test and evaluation—no approved capabilities development document			- 5,000
130	Information Technology Development	69,659	62,823	- 6,836
	Restoring acquisition accountability: Unjustified request ..			- 6,836
132	CH-53K RDTE	503,180	471,280	- 31,900
	Restoring acquisition accountability: Development test delayed to FY14			- 31,900
133	Joint Air-to-Ground Missile [JAGM]	5,500	—	- 5,500
	Program termination: Reduction due to program termination			- 5,500
134	Multi-mission Maritime Aircraft [MMA]	317,358	240,358	- 77,000
	Restoring acquisition accountability: Concurrency and Spiral 2 development delay			- 77,000
147	Management, Technical & International Support	76,585	84,585	+ 8,000
	Printed Circuit Board Executive Agent—Funds Previous NDAA mandate			+ 8,000
151	Test and Evaluation Support	331,219	281,219	- 50,000
	Maintain program affordability: Efficiencies savings for implementing automated test and analysis technologies			- 50,000
164	Strike Weapons Development	9,757	11,757	+ 2,000
	Restoring acquisition accountability: Unjustified request ..			- 2,000
	F/A-18 missile flight testing			+ 4,000
172	Fleet Telecommunications (Tactical)	46,155	34,423	- 11,732

[In thousands of dollars]

Line	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
	Restoring acquisition accountability: Joint Aerial Layer Network program delay			-11,732
176	Amphibious Tactical Support Units (Displacement Craft)	7,240	4,682	-2,558
	Improving funds management: Forward financed			-2,558
184	MK-48 ADCAP	12,806	10,106	-2,700
	Improving funds management: Test and evaluation award slip			-2,700
189	Marine Corps Ground Combat/Supporting Arms Systems	139,594	118,719	-20,875
	Program termination: Marine Personnel Carrier program terminated due to affordability			-20,875
190	Marine Corps Combat Services Support	42,647	35,647	-7,000
	Improving funds management: Prior year carry over			-7,000
192	Tactical AIM Missiles	39,159	31,159	-8,000
	Restoring acquisition accountability: Program delay			-8,000
215	RQ-11 UAV	102	—	-102
	Restoring acquisition accountability: Should be funded in sustainment			-102
219	RQ-21A	11,122	9,122	-2,000
	Improving funds management: Excess program management			-2,000
	Classified Programs	1,185,132	1,219,558	+ 34,426
	Classified adjustments			+ 34,426

Next Generation Jammer.—Senate Report 112–196 directed the Government Accountability Office to conduct a review of the program to determine if there are redundancies across the services and assess whether this effort should become a joint service solution. The report is almost complete, and based on the current recommendation, the Committee recommends the JROC validate the requirements for this capability and determine which DOD aircraft should carry this jammer. In addition, the current acquisition strategy selects one contractor for the program’s Technology Development phase. The Committee is concerned that this approach is inconsistent with some of the basic tenets of the Weapon System Acquisition Reform Act of 2009, including those that encourage competition throughout the acquisition life cycle, and directs the Navy to maintain competition through the Next Generation Jammer program’s technology development phase. In addition, the Navy should ensure that it acquires the necessary technical data rights and allows for the type of open systems architecture approach that would facilitate continued competition for the remainder of the Next Generation Jammer acquisition program.

Navy Unmanned Combat Air System.—The Committee commends the Navy on the historic launch and arrested landing of the X-47B unmanned combat air system [UCAS] onboard an aircraft carrier, which demonstrated an autonomous unmanned aircraft can be safely integrated into Navy carrier operations. The Navy plans to retire the aircraft at the end of the fiscal year, after investing more than \$1,500,000,000 in technology development. However, the Committee is concerned that the Navy plans to retire the aircraft prior to completing additional risk reduction testing. Therefore, prior to retiring the aircraft, the Committee directs the Navy to evaluate if the Navy UCAS–D program can be used for additional risk reduction activities to minimize ship integration challenges for the future UCLASS program.

Advanced Hawkeye.—The fiscal year 2014 request includes \$152,041,000 for new technology development. A majority of the request is to develop an in-flight refueling capability and future, undefined capabilities. The contract award for the in-flight refueling capability schedule was delayed by 6 months, and the future development effort lacks clear requirements and definition. As a result, the Committee recommends a reduction of \$28,000,000.

Air and Missile Defense Radar.—The fiscal year 2014 request includes \$275,871,000 to continue the engineering and manufacturing development phase. The Navy originally planned to award the contract and down select to a single manufacturer in November 2012 which was subsequently delayed to July 2013. As a result of the delay, a majority of the fiscal year 2013 funding will be awarded later than planned. Therefore, the Committee recommends a reduction of \$87,000,000.

Offensive Anti-Surface Warfare Weapon Development.—The budget request includes \$135,985,000 to begin development of a new Navy anti-ship weapon. Over the last year, the Navy has made several adjustments to the long range plan for this program. As a result of the uncertainty, and until the Navy has determined the exact requirements for this program, the Committee recommends a reduction of \$30,000,000.

Virginia Payload Module.—The Fiscal Year 2013 Defense Appropriations Act reduced the fiscal year 2013 budget request for the Virginia Payload Module by \$90,000,000. The Committees was concerned with increasing the *Virginia*-class submarine size by a third to accommodate a 93.7 foot module in the submarine's center. The Committee believes that the module's requirements are not defined, and will result in instability to a proven submarine design, disrupt a stable production line, and add significant cost risk which is not affordable in these difficult fiscal times. Initial cost estimates for development alone were \$800,000,000. Since then, the Navy has completed the requirements validation, but the Joint Requirements Oversight Committee validation is still incomplete. The Committee recommends no funding for the Virginia Payload Module in fiscal year 2014.

LHA 8 Amphibious Assault Ship.—The fiscal year 2014 budget request includes \$19,967,000 for LHA 8 amphibious assault ship preliminary design efforts. The Committee is aware that the Department of the Navy plans to reintroduce a well deck and optimize the aviation capability of LHA 8, which is planned for initial procurement funding in fiscal year 2015. As described in the Senate report accompanying S. 1197, the National Defense Act for Fiscal Year 2014, as reported, previous Navy efforts to start ship construction prior to completing a ship's design inevitably led to cost growth and schedule delays. Considering growing fiscal pressure on the national defense budget and increasing amphibious assault ship demands from combatant commanders for contingency operations, theater security cooperation, humanitarian assistance, and conventional deterrence missions, the Committee believes it is essential that LHA 8 be introduced in the most cost-effective manner. Therefore, the Committee includes an additional \$50,000,000 for LHA 8 advance planning and design and directs the Department of the Navy to work with industry to identify affordability and

producibility strategies that will lead to more efficient construction of a large deck amphibious assault ship.

Ship Self Defense [SEWIP Block III].—The fiscal year 2014 request includes \$164,799,000 to develop advanced technology for the AN/SLQ-32 radar. The Block III acquisition strategy for developing this new capability has shifted from beginning in early fiscal year 2013 to mid-fiscal year 2014. Therefore, the Committee recommends a reduction of \$50,000,000.

Multi-Mission Maritime Aircraft.—The Navy requested \$317,358,000 to continue “basic” development, as well as develop two separate software and hardware upgrades. Senate Report 112-196 directed the Joint Requirements Oversight Counsel [JROC] to validate the additional capabilities, which is still incomplete. In addition to the requested modernization efforts, the program has identified numerous corrections of deficiencies in the existing system. Therefore, the Committee recommends a reduction of \$77,000,000 to the second increment of development due to undefined requirements and significant concurrency with ongoing development efforts. The Committee also directs the JROC to validate the additional capabilities and the Cost Assessment and Program Evaluation office to conduct a business case analysis to determine whether this 6-year development effort is affordable and provide the assessment to the congressional defense committees.

Carrier Onboard Delivery [COD] Follow On.—The budget request includes \$2,460,000 to conduct an analysis of alternatives for the program that will follow the COD. In an effort to ensure the program has an affordable acquisition strategy, the Committee directs the Navy to provide the acquisition strategy to the congressional defense committees prior to beginning the technology development phase.

F-18 Engine Upgrades.—The Committee understands that in order to enable the future capabilities envisioned in the F/A-18 and EA-18G aircraft growth roadmap or “flight plan,” the Navy is considering the development of an F-414 engine upgrade. The enhanced durability engine is a modular upgrade that will provide options for additional power for future capabilities which should make the engine more affordable and maintainable. The Committee encourages the Navy to begin development of the engine upgrade to support the capabilities envisioned in the EA-18G and F/A-18E/F flight plans.

Marine Personnel Carrier [MPC].—The fiscal year 2014 request includes \$20,875,000 to begin developing a survivable and mobile platform to transport Marines when ashore. However, the Marine Corps has subsequently decided to cancel this effort due to affordability challenges. Consistent with S. 1197, the National Defense Authorization Act for fiscal year 2014, as reported, the Committee recommends reducing the budget request by \$20,875,000.

RQ-4 Triton UAV.—The fiscal year 2014 budget request includes \$375,235,000 to continue development of the RQ-4 Triton UAV program. Since last year, the program has experienced a 2-year delay in development and added \$312,000,000 across fiscal year 2014 and 2015. The Committee is concerned with this cost growth and similarities experienced in the Air Force Global Hawk program. As a result, the Committee directs the Government Account-

ability Office to do a thorough review of the remaining tasks associated with completing development, to determine if the risks are being repeated across the two aircraft, and to provide a report to the defense committees within 120 days after enactment of this act.

Defense Research Sciences.—The Committee encourages the Department to continue to invest in advanced science and technology research. Examples of research include high temperature-resistant and other high performance materials, advanced structural systems for next generation aircraft, and other aerospace weapon systems. In addition, the Committee encourages the Department to invest in functional polymeric silicon materials for advanced energy storage, photovoltaic, and electronic applications.

Power Generation and Storage.—The Committee encourages the Department to continue development in power generation and energy storage research, especially to improve the safety of advanced batteries. The Committee notes that development and deployment of Li-ion batteries with up to three times the performance capability of other battery products are critical to current and future DOD missions, but safety incidents have hindered or even halted their widespread operational adoption. As such, development and qualification of technologies to reduce the risk of thermal runaway in Li-ion batteries should be a priority for energy storage research.

Arctic Deep Water Basing.—The Committee commends the Department’s efforts to investigate potential security and resource issues related to the opening of Arctic sea-routes. The Committee encourages the Department to continue researching a range of solutions and response, including Arctic forward basing proposals. The Committee requests the Department to provide a report to the congressional defense committees on current and future programs related to Arctic security solutions and provide an analysis of procurement and costs related to both fixed and mobile Arctic basing options.

Flight Deck Cleaning.—The Committee is concerned with the lack of efficiency, high-cost and environmental consequences of the current method of cleaning flight decks on Navy ships. Modern technology may provide opportunities for improving the current process by reducing required manpower, decreasing clean-time and mitigating environmental impacts thereby improving operational readiness. Therefore, the Committee encourages the Navy to continue to invest in more efficient and effective methods for cleaning Navy flight decks.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, AIR FORCE

Appropriations, 2013 ¹	\$25,399,175,000
Budget estimate, 2014	25,702,946,000
Committee recommendation	24,945,541,000

¹ Does not reflect the March 1, 2013, sequester of funds under Public Law 112–25.

The Committee recommends an appropriation of \$24,945,541,000. This is \$757,405,000 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	2014 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, AIR FORCE			
	BASIC RESEARCH			
1	DEFENSE RESEARCH SCIENCES	373,151	373,151	.....
2	UNIVERSITY RESEARCH INITIATIVES	138,333	138,333	.....
3	HIGH ENERGY LASER RESEARCH INITIATIVES	13,286	13,286	.....
	TOTAL, BASIC RESEARCH	524,770	524,770	.....
	APPLIED RESEARCH			
4	MATERIALS	116,846	121,846	+ 5,000
5	AEROSPACE VEHICLE TECHNOLOGIES	119,672	119,672	.....
6	HUMAN EFFECTIVENESS APPLIED RESEARCH	89,483	89,483	.....
7	AEROSPACE PROPULSION	197,546	197,546	.....
8	AEROSPACE SENSORS	127,539	127,539	.....
9	SPACE TECHNOLOGY	104,063	104,063	.....
10	CONVENTIONAL MUNITIONS	81,521	81,521	.....
11	DIRECTED ENERGY TECHNOLOGY	112,845	112,845	.....
12	DOMINANT INFORMATION SCIENCES AND METHODS	138,161	138,161	.....
13	HIGH ENERGY LASER RESEARCH	40,217	40,217	.....
	TOTAL, APPLIED RESEARCH	1,127,893	1,132,893	+ 5,000
	ADVANCED TECHNOLOGY DEVELOPMENT			
14	ADVANCED MATERIALS FOR WEAPON SYSTEMS	39,572	54,572	+ 15,000
15	SUSTAINMENT SCIENCE AND TECHNOLOGY (S&T)	12,800	12,800	.....
16	ADVANCED AEROSPACE SENSORS	30,579	30,579	.....
17	AEROSPACE TECHNOLOGY DEV/DEMO	77,347	77,347	.....
18	AEROSPACE PROPULSION AND POWER TECHNOLOGY	149,321	159,321	+ 10,000
19	ELECTRONIC COMBAT TECHNOLOGY	49,128	43,428	- 5,700
20	ADVANCED SPACECRAFT TECHNOLOGY	68,071	68,071	.....
21	MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	26,299	26,299	.....
22	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOPMENT	20,967	20,967	.....
23	CONVENTIONAL WEAPONS TECHNOLOGY	33,996	33,996	.....
24	ADVANCED WEAPONS TECHNOLOGY	19,000	19,000	.....
25	MANUFACTURING TECHNOLOGY PROGRAM	41,353	41,353	.....
26	BATTLESPACE KNOWLEDGE DEVELOPMENT & DEMONSTRATION ..	49,093	49,093	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	617,526	636,826	+ 19,300
	ADVANCED COMPONENT DEVELOPMENT			
28	INTELLIGENCE ADVANCED DEVELOPMENT	3,983	3,983	.....
29	PHYSICAL SECURITY EQUIPMENT	3,874	3,874	.....
32	SPACE CONTROL TECHNOLOGY	27,024	27,024	.....
33	COMBAT IDENTIFICATION TECHNOLOGY	15,899	15,899	.....
34	NATO RESEARCH AND DEVELOPMENT	4,568	4,568	.....
35	INTERNATIONAL SPACE COOPERATIVE R&D	379	379	.....
36	SPACE PROTECTION PROGRAM (SPP)	28,764	28,764	.....
38	INTERCONTINENTAL BALLISTIC MISSILE	86,737	86,737	.....
40	POLLUTION PREVENTION (DEM/VAL)	953	953	.....
42	NEXT GENERATION BOMBER	379,437	379,437	.....
44	TECHNOLOGY TRANSFER	2,606	2,606	.....
45	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM	103	103	.....
47	REQUIREMENTS ANALYSIS AND MATURATION	16,018	16,018	.....
49	AIR AND SPACE OPS CENTER	58,861	58,861	.....
50	JOINT DIRECT ATTACK MUNITION	2,500	2,500	.....
51	GROUND ATTACK WEAPONS FUZE DEVELOPMENT	21,175	21,175	.....
52	OPERATIONALLY RESPONSIVE SPACE		10,000	+ 10,000

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
53	TECH TRANSITION PROGRAM	13,636	38,636	+ 25,000
54	SERVICE SUPPORT TO STRATCOM—SPACE ACTIVITIES	2,799	2,799	.....
55	THREE DIMENSIONAL LONG-RANGE RADAR	70,160	70,160	.....
56	NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT)	137,233	137,233	.....
	TOTAL, ADVANCED COMPONENT DEVELOPMENT	876,709	911,709	+ 35,000
	ENGINEERING & MANUFACTURING DEVELOPMENT			
58	INTELLIGENCE ADVANCED DEVELOPMENT	977	977	.....
61	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	3,601	3,601	.....
62	ELECTRONIC WARFARE DEVELOPMENT	1,971	1,971	.....
64	TACTICAL DATA NETWORKS ENTERPRISE	51,456	49,956	- 1,500
65	PHYSICAL SECURITY EQUIPMENT	50	.....	- 50
66	SMALL DIAMETER BOMB (SDB)	115,000	115,000	.....
67	COUNTERSPACE SYSTEMS	23,930	23,930	.....
68	SPACE SITUATION AWARENESS SYSTEMS	400,258	400,258	.....
69	AIRBORNE ELECTRONIC ATTACK	4,575	4,575	.....
70	SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	352,532	322,832	- 29,700
71	ARMAMENT/ORDNANCE DEVELOPMENT	16,284	16,284	.....
72	SUBMUNITIONS	2,564	2,564	.....
73	AGILE COMBAT SUPPORT	17,036	17,036	.....
74	LIFE SUPPORT SYSTEMS	7,273	7,273	.....
75	COMBAT TRAINING RANGES	33,200	25,300	- 7,900
78	JOINT STRIKE FIGHTER (JSF)	816,335	796,335	- 20,000
79	INTERCONTINENTAL BALLISTIC MISSILE	145,442	145,442	.....
80	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)	27,963	27,963	.....
81	LONG RANGE STANDOFF WEAPON	5,000	5,000	.....
82	ICBM FUZE MODERNIZATION	129,411	118,411	- 11,000
83	F-22 MODERNIZATION INCREMENT 3.2B	131,100	131,100	.....
84	NEXT GENERATION AERIAL REFUELING AIRCRAFT	1,558,590	1,558,590	.....
85	CSAR HH-60 RECAPITALIZATION	393,558	201,558	- 192,000
86	HC/MC-130 RECAP RDT&E	6,242	6,242	.....
87	ADVANCED EHF MILSATCOM (SPACE)	272,872	272,872	.....
88	POLAR MILSATCOM (SPACE)	124,805	109,805	- 15,000
89	WIDEBAND GLOBAL SATCOM (SPACE)	13,948	13,948	.....
90	B-2 DEFENSIVE MANAGEMENT SYSTEM	303,500	303,500	.....
91	NUCLEAR WEAPONS MODERNIZATION	67,874	6,174	- 61,700
94	FULL COMBAT MISSION TRAINING	4,663	4,663	.....
97	CV-22	46,705	46,705	.....
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	5,078,715	4,739,865	- 338,850
	RDT&E MANAGEMENT SUPPORT			
99	THREAT SIMULATOR DEVELOPMENT	17,690	17,690	.....
100	MAJOR T&E INVESTMENT	34,841	34,841	.....
101	RAND PROJECT AIR FORCE	32,956	32,956	.....
103	INITIAL OPERATIONAL TEST & EVALUATION	13,610	12,310	- 1,300
104	TEST AND EVALUATION SUPPORT	742,658	742,658	.....
105	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	14,203	14,203	.....
106	SPACE TEST PROGRAM (STP)	13,000	13,000	.....
107	FACILITIES RESTORATION & MODERNIZATION—TEST & EVAL	44,160	44,160	.....
108	FACILITIES SUSTAINMENT—TEST AND EVALUATION SUPPORT	27,643	27,643	.....
109	MULTI-SERVICE SYSTEMS ENGINEERING INITIATIVE	13,935	6,935	- 7,000
110	SPACE AND MISSILE CENTER (SMC) CIVILIAN WORKFORCE	192,348	186,348	- 6,000
111	ACQUISITION AND MANAGEMENT SUPPORT	28,647	28,647	.....
112	GENERAL SKILL TRAINING	315	315	.....
114	INTERNATIONAL ACTIVITIES	3,785	3,785	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,179,791	1,165,491	- 14,300
	OPERATIONAL SYSTEMS DEVELOPMENT			
115	GPS III—OPERATIONAL CONTROL SEGMENT	383,500	383,500	.....
117	WIDE AREA SURVEILLANCE	5,000	5,000	.....
118	AIR FORCE INTEGRATED MILITARY HUMAN RESOURCES SYSTEM	90,097	34,097	- 56,000

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
119	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	32,086	22,086	-10,000
121	B-52 SQUADRONS	24,007	21,007	-3,000
122	AIR-LAUNCHED CRUISE MISSILE (ALCM)	450	450	.....
123	B-1B SQUADRONS	19,589	19,589	.....
124	B-2 SQUADRONS	100,194	100,194	.....
125	STRAT WAR PLANNING SYSTEM—USSTRATCOM	37,448	37,448	.....
128	REGION/SECTOR OPERATION CONTROL CENTER MODERNIZATION	1,700	1,700	.....
130	WARFIGHTER RAPID ACQUISITION PROCESS (WRAP) RAPID TRAN	3,844	3,844	.....
131	MQ-9 UAV	128,328	115,828	-12,500
133	A-10 SQUADRONS	9,614	9,614	.....
134	F-16 SQUADRONS	177,298	177,298	.....
135	F-15E SQUADRONS	244,289	244,289	.....
136	MANNED DESTRUCTIVE SUPPRESSION	13,138	13,138	.....
137	F-22 SQUADRONS	328,542	328,542	.....
138	F-35 SQUADRONS	33,000	5,900	-27,100
139	TACTICAL AIM MISSILES	15,460	12,760	-2,700
140	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	84,172	84,172	.....
142	COMBAT RESCUE AND RECOVERY	2,582	6,882	+4,300
143	COMBAT RESCUE—PARARESCUE	542	542	.....
144	AF TENCAP	89,816	89,816	.....
145	PRECISION ATTACK SYSTEMS PROCUREMENT	1,075	2,000	+925
146	COMPASS CALL	10,782	10,782	.....
147	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	139,369	109,969	-29,400
149	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	6,373	6,373	.....
150	AIR AND SPACE OPERATIONS CENTER (AOC)	22,820	22,820	.....
151	CONTROL AND REPORTING CENTER (CRC)	7,029	7,029	.....
152	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	186,256	186,256	.....
153	TACTICAL AIRBORNE CONTROL SYSTEMS	743	743	.....
156	COMBAT AIR INTELLIGENCE SYSTEM ACTIVITIES	4,471	4,471	.....
158	TACTICAL AIR CONTROL PARTY—MOD	10,250	10,250	.....
159	C2ISR TACTICAL DATA LINK	1,431	1,431	.....
160	COMMAND AND CONTROL (C2) CONSTELLATION	7,329	7,329	.....
161	DCAPEX	15,081	15,081	.....
162	JOINT SURVEILLANCE AND TARGET ATTACK RADAR SYSTEM	13,248	23,148	+9,900
163	SEEK EAGLE	24,342	24,342	.....
164	USAF MODELING AND SIMULATION	10,448	10,448	.....
165	WARGAMING AND SIMULATION CENTERS	5,512	5,512	.....
166	DISTRIBUTED TRAINING AND EXERCISES	3,301	3,301	.....
167	MISSION PLANNING SYSTEMS	62,605	62,605	.....
169	CYBER COMMAND ACTIVITIES	68,099	38,099	-30,000
170	AF OFFENSIVE CYBERSPACE OPERATIONS	14,047	14,047	.....
171	AF DEFENSIVE CYBERSPACE OPERATIONS	5,853	5,853	.....
179	SPACE SUPERIORITY INTELLIGENCE	12,197	12,197	.....
180	E-4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	18,267	13,267	-5,000
181	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	36,288	36,288	.....
182	INFORMATION SYSTEMS SECURITY PROGRAM	90,231	96,331	+6,100
183	GLOBAL COMBAT SUPPORT SYSTEM	725	725	.....
185	MILSATCOM TERMINALS	140,170	95,170	-45,000
187	AIRBORNE SIGINT ENTERPRISE	117,110	117,110	.....
190	GLOBAL AIR TRAFFIC MANAGEMENT (GATM)	4,430	4,430	.....
191	CYBER SECURITY INITIATIVE	2,048	2,048	.....
192	DOD CYBER CRIME CENTER	288	288	.....
193	SATELLITE CONTROL NETWORK (SPACE)	35,698	35,698	.....
194	WEATHER SERVICE	24,667	24,667	.....
195	AIR TRAFFIC CONTROL, APPROACH, & LANDING SYSTEM (ATC) ..	35,674	39,174	+3,500
196	AERIAL TARGETS	21,186	21,186	.....
199	SECURITY AND INVESTIGATIVE ACTIVITIES	195	195	.....
200	ARMS CONTROL IMPLEMENTATION	1,430	1,430	.....
201	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	330	10	-320
206	SPACE AND MISSILE TEST AND EVALUATION CENTER	3,696	3,696	.....
207	SPACE WARFARE CENTER	2,469	2,469	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
208	INTEGRATED BROADCAST SERVICE	8,289	8,289	.....
209	SPACELIFT RANGE SYSTEM (SPACE)	13,345	13,345	.....
211	DRAGON U-2	18,700	18,700	.....
212	ENDURANCE UNMANNED AERIAL VEHICLES	3,000	.....	- 3,000
213	AIRBORNE RECONNAISSANCE SYSTEMS	37,828	50,328	+ 12,500
214	MANNED RECONNAISSANCE SYSTEMS	13,491	13,491	.....
215	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	7,498	7,498	.....
216	PREDATOR UAV (JMIP)	3,326	3,326	.....
217	RQ-4 UAV	134,406	110,406	- 24,000
218	NETWORK-CENTRIC COLLABORATIVE TARGET (TIARA)	7,413	7,413	.....
219	COMMON DATA LINK (CDL)	40,503	40,503	.....
220	NATO AGS	264,134	264,134	.....
221	SUPPORT TO DCGS ENTERPRISE	23,016	23,016	.....
222	GPS III SPACE SEGMENT	221,276	221,276	.....
223	JSPOC MISSION SYSTEM	58,523	58,523	.....
224	RAPID CYBER ACQUISITION	2,218	2,218	.....
226	NUDET DETECTION SYSTEM (SPACE)	50,547	42,547	- 8,000
227	SPACE SITUATION AWARENESS OPERATIONS	18,807	18,807	.....
229	SHARED EARLY WARNING (SEW)	1,079	1,079	.....
230	C-130 AIRLIFT SQUADRON	400	400	.....
231	C-5 AIRLIFT SQUADRONS	61,492	61,492	.....
232	C-17 AIRCRAFT	109,134	109,134	.....
233	C-130J PROGRAM	22,443	22,443	.....
234	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	4,116	4,116	.....
238	OPERATIONAL SUPPORT AIRLIFT	44,553	44,553	.....
239	SPECIAL TACTICS/COMBAT CONTROL	6,213	6,213	.....
240	DEPOT MAINTENANCE (NON-IF)	1,605	1,605	.....
242	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	95,238	60,478	- 34,760
243	SUPPORT SYSTEMS DEVELOPMENT	10,925	10,925	.....
244	OTHER FLIGHT TRAINING	1,347	1,347	.....
245	OTHER PERSONNEL ACTIVITIES	65	65	.....
246	JOINT PERSONNEL RECOVERY AGENCY	1,083	1,083	.....
247	CIVILIAN COMPENSATION PROGRAM	1,577	1,577	.....
248	PERSONNEL ADMINISTRATION	5,990	5,990	.....
249	AIR FORCE STUDIES AND ANALYSIS AGENCY	786	786	.....
250	FACILITIES OPERATION—ADMINISTRATION	654	654	.....
251	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT	135,735	135,735	.....
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	4,423,014	4,169,459	- 253,555
	CLASSIFIED PROGRAMS	11,874,528	11,664,528	- 210,000
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, AIR FORCE	25,702,946	24,945,541	- 757,405

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Program element title	Fiscal year 2013 base	Committee recommendation	Change from budget estimate
4	Materials	116,846	121,846	+ 5,000
	Nanotechnology research .....	.....	.....	+ 5,000
14	Advanced Materials for Weapon Systems	39,572	54,572	+ 15,000
	Materials research and technology .....	.....	.....	+ 10,000
	Metals affordability research .....	.....	.....	+ 5,000
18	Aerospace Propulsion and Power Technology	149,321	159,321	+ 10,000
	Silicon carbide research .....	.....	.....	+ 10,000
19	Electronic Combat Technology	49,128	43,428	- 5,700

[In thousands of dollars]

Line	Program element title	Fiscal year 2013 base	Committee recommendation	Change from budget estimate
	Restoring acquisition accountability: delayed program start			- 5,700
52	Operationally Responsive Space		10,000	+ 10,000
	Authorization adjustment: Operationally Responsive Space			+ 10,000
53	Tech Transition Program	13,636	38,636	+ 25,000
	Alternative energy research			+ 25,000
64	Tactical Data Networks Enterprise	51,456	49,956	- 1,500
	Restoring acquisition accountability: 5th to 4th Generation Gateway—program delay			- 1,500
65	Physical Security Equipment	50		- 50
	Improving funds management: unobligated prior year funds			- 50
70	Space Based Infrared System [SBIRS] High EMD	352,532	322,832	- 29,700
	Improving funds management: forward financing—ground development			- 29,700
75	Combat Training Ranges	33,200	25,300	- 7,900
	Restoring acquisition accountability: Advanced Radar Threat System Development—late contract award			- 7,900
78	F-35—EMD	816,335	796,335	- 20,000
	Maintaining program affordability: F-135 Propulsion System cost growth			- 20,000
82	ICBM Fuze Modernization	129,411	118,411	- 11,000
	Maintaining program affordability: excessive support cost growth			- 11,000
85	CSAR HH-60 Recapitalization	393,558	201,558	- 192,000
	Restoring acquisition accountability: reduce unit cost			- 192,000
88	Polar MILSATCOM (SPACE)	124,805	109,805	- 15,000
	Budget documentation disparity: unjustified increase			- 15,000
91	Nuclear Weapons Modernization	67,874	6,174	- 61,700
	Maintaining program affordability: B61 Life Extension Program			- 61,700
103	Initial Operational Test & Evaluation	13,610	12,310	- 1,300
	Improving funds management: reduction for historic underexecution			- 1,300
109	Multi-Service Systems Engineering Initiative	13,935	6,935	- 7,000
	Program termination: Multi-Service Systems Engineering Initiative			- 7,000
110	Space and Missile Center (SMC) Civilian Workforce	192,348	186,348	- 6,000
	Improving funds management: unfilled positions			- 6,000
118	AF Integrated Personnel and Pay System (AF-IPPS)	90,097	34,097	- 56,000
	Improving funds management: fiscal year 2012 funds available for development			- 56,000
119	Anti-Tamper Technology Executive Agency	32,086	22,086	- 10,000
	Improving funds management: forward financing			- 10,000
121	B-52 Squadrons	24,007	21,007	- 3,000
	Restoring acquisition accountability: 1760 Internal Weapons Bay Upgrade—flight test delay			- 3,000
131	MQ-9 UAV	128,328	115,828	- 12,500
	Improving funds management: forward financing			- 12,500
138	F-35 Squadrons	33,000	5,900	- 27,100
	Restoring acquisition accountability: Follow-on Development—no approved Capabilities Development Document			- 10,000
	Restoring acquisition accountability: Developmental Test and Evaluation—no approved Capabilities Development Document			- 7,100
	Restoring acquisition accountability: B61—no approved Capabilities Development Document			- 10,000
139	Tactical AIM Missiles	15,460	12,760	- 2,700
	Improving funds management: forward financing			- 2,700

[In thousands of dollars]

Line	Program element title	Fiscal year 2013 base	Committee recommendation	Change from budget estimate
142	Combat Rescue and Recovery	2,582	6,882	+ 4,300
	Air National Guard shortfall: HH-60 Smart Multi-Function Color Display			+ 4,300
145	Precision Attack Systems Procurement	1,075	2,000	+ 925
	Improving funds management: forward financing			- 1,075
	Air National Guard shortfall: Sniper Digital Video			+ 2,000
147	Aircraft Engine Component Improvement Program	139,369	109,969	- 29,400
	Improving funds management: JSF Component Improvement Program forward financing			- 29,400
162	Joint Surveillance/Target Attack Radar System [JSTARS] ..	13,248	23,148	+ 9,900
	Authorization adjustment: retain T-3 test aircraft ..			+ 9,900
169	Cyber Command Activities	68,099	38,099	- 30,000
	Improving funds management: forward financing ..			- 30,000
180	E-4B National Airborne Operations Center [NAOC]	18,267	13,267	- 5,000
	Maintaining program affordability: Low Frequency Transmit System funds early to need			- 5,000
182	Information Systems Security Program	90,231	96,331	+ 6,100
	Maintaining program affordability: concept refinement			- 3,900
	Authorization adjustment: ASACoE program			+ 10,000
185	MILSATCOM Terminals	140,170	95,170	- 45,000
	Restoring acquisition accountability: FAB-T			- 45,000
195	Air Traffic Control, Approach, and Landing System (ATCALS)	35,674	39,174	+ 3,500
	Air National Guard shortfall: Remotely Piloted Aircraft Ground Based Sense and Avoid			+ 3,500
201	Defense Joint Counterintelligence Activities	330	10	- 320
	Maintaining program affordability			- 320
212	Endurance Unmanned Aerial Vehicles	3,000		- 3,000
	Terminate ISIS			- 3,000
213	Airborne Reconnaissance Systems	37,828	50,328	+ 12,500
	Authorization adjustment: Blue Devil Replacement WAMI/NVDF			+ 12,500
217	RQ-4 UAV	134,406	110,406	- 24,000
	Improving funds management: forward financing ..			- 24,000
226	NUDET Detection System (SPACE)	50,547	42,547	- 8,000
	Improving funds management: prior year carryover ..			- 8,000
242	Logistics Information Technology [LOGIT]	95,238	60,478	- 34,760
	Maintaining program affordability: delay transformational projects			- 34,760
	Classified Programs	11,874,528	11,664,528	- 210,000
	Classified adjustment			- 210,000

Operationally Responsive Space.—The Department of Defense Appropriations Act, 2013, provided \$105,000,000 for continuation of the Operationally Responsive Space program, in accordance with the Fiscal Year 2013 National Defense Authorization Act [NDAA]. The Air Force proposed to acquire a low-cost weather satellite, which would leverage prior investments in bus and sensor programs, which the Committee supported.

However, this plan has not been approved by the Department of Defense despite the identification of a key requirements gap in weather data collection. The failure to provide a path forward for the Operationally Responsive Space program stands in stark contrast to the congressional rejection of the fiscal year 2013 proposal to terminate the program.

The Committee finds that the Operationally Responsive Space program is an important pathfinder to fielding future satellite capabilities at an affordable cost. The Committee directs the Sec-

retary of the Air Force to provide the congressional defense committees with a report describing the plans for executing the available funding consistent with the mandates of the Department of Defense Appropriations Act, 2013 and the Fiscal Year 2013 NDAA within 30 days after enactment of this act.

*Family of Advanced Beyond-Line-of-Sight Terminals [FAB-T].—*The Air Force has adopted a competitive acquisition strategy for the final development and procurement of FAB-T systems. The key event in this acquisition will be a source selection between two terminal solutions in early fiscal year 2014.

The Committee supports competitive acquisition strategies to provide best value to the Government and has supported the necessary funds for development of both FAB-T systems. However, the Committee is concerned that there is not adequate visibility on several aspects of the acquisition strategy, including requirements definition and the basis for evaluation of two technologies at different states of maturity.

Therefore, the Committee recommends a reduction of \$45,000,000 from Research, Development, Test and Evaluation, Air Force, and \$45,000,000 from Other Procurement, Air Force.

*Combat Rescue Helicopter.—*For fiscal year 2014, the Air Force requests \$393,558,000 to begin the engineering, manufacturing, and development phase of the combat rescue helicopter. The Committee recommends \$201,558,000, a reduction of \$192,000,000, due to a delay in contract award. The Committee fully supports this mission but believes replacement of the existing HH-60G fleet can be accomplished in a less costly manner.

Of the amount the Air Force requests in fiscal year 2014, \$245,000,000 is budgeted to buy two commercially available helicopters, as well as procuring and integrating the mission equipment. The Committee strongly believes that paying \$122,500,000 for an in-production helicopter, even with integrated mission equipment, is excessive. Further, the Air Force plans to spend nearly \$1,400,000,000 for development and test of nine helicopters followed by a procurement program that currently shows an average procurement unit cost of \$81,000,000 per helicopter. In the current fiscal environment, the Department should be seeking innovative ways to recapitalize the HH-60 fleet with platforms having affordable unit costs.

In the fiscal year 2011 Senate appropriations report 111-295, this Committee zeroed out funding for the HH-60 Recapitalization program and expressed concern that the Air Force's plan could produce results similar to the wasted \$200,000,000 spent on the Combat Search and Rescue-X program. The Committee is concerned that the Air Force may be heading down the same path and wants to fully understand the cost of all mission and acquisition alternatives. Therefore, the Committee directs the Office of the Secretary of Defense, Cost Assessment and Program Evaluation to provide, not later than 90 days after enactment of this act, a briefing to the congressional defense committees on a business case analysis of the combat rescue helicopter. This analysis shall examine the cost of all mission alternatives in addition to alternative acquisition strategies to include utilizing existing contract vehicles and post production modifications.

Logistics Information Technology.—The Air Force requests \$95,238,000 to remediate and modernize legacy logistics information technology systems to meet the 2017 auditability mandate as well as pursue transformational initiatives that will eventually replace the legacy systems. The Committee fully supports the Air Force's efforts to remediate and modernize legacy systems to meet the 2017 mandate—but questions the timing of pursuing transformational initiatives.

After spending \$1,030,000,000 over several years to replace the legacy logistics systems with the expeditionary combat support system [ECSS], the Air Force terminated ECSS because an additional \$1,100,000,000 was needed to field 25 percent of the original ECSS capability. As a potential root cause of the failure to deliver ECSS, the Air Force cites “lack of enterprise resource planning [ERP] program management skills within government.” Given this assessment, the Committee believes the Air Force should focus their skilled program managers on projects that help the Air Force achieve auditability in 2017 rather than on efforts that deliver much later. Therefore, the Committee denies the request to begin transformational initiatives and reduces logistics information technology by \$34,760,000.

High Capacity Optical Wireless Communications for Remotely Piloted Vehicles.—The Committee supports Air Force development of secure, high-bandwidth communications technologies for assured communications networks and covertness in tactical environments, including free-space optical technology. Recognizing the military's increasing reliance on tactical and intelligence data from remotely piloted air vehicles, and that transmission capacity is already limited by radio frequency spectrum and bandwidth, the Air Force is encouraged to continue development and demonstration of next generation free-space optical communications for remotely piloted air vehicles.

Engine Sensor Technology Research.—The Committee is aware that ongoing research regarding dynamic engine sensors for military aircraft may increase safety and decrease operation and sustainment costs if the technology is fully matured. The Committee encourages the Department to continue to support innovative research on engine sensor technology with the goal of improving performance, safety, and fuel efficiency.

Ground Based Radar Technologies.—The Committee understands that the Air Force, Marine Corps, and the Army are each considering the procurement of new ground radar solutions. The Committee applauds the Marine Corps for pursuing a flexible, multi-mission radar. Given the fiscally constrained budgetary environment, the Committee encourages the Department of Defense to carefully examine the services' ground-based radar acquisition strategies to ensure procurement of the most affordable and most efficient solution that meets the warfighter requirements. The Committee believes the Department should consider leveraging available technology and focus on efficiency and affordability to potentially lower lifecycle costs, accelerate deployment schedules, and reduce programmatic risk.

Human Optimization of Autonomous Systems.—Unmanned Aerial Systems have rapidly advanced to become invaluable to national

defense. The Committee praises the Air Force for its forward leaning approach to evolving this technology as requirements change and the threat adapts. Autonomous systems, the next stage in that evolution, will demand testing and evaluation systems and procedures that are developed solely for their unique requirements. The Committee encourages the Air Force to invest in the development of test and evaluation capabilities for autonomy based systems.

Sensors Research by Air Force Minority Leaders Program.—The Committee encourages the Air Force Research Laboratory to carry out sensors research activities conducted by the Air Force Minority Leaders Program for research in the disciplines of materials and processing, sensors, and related enabling academic specialties, and to meet critical defense capabilities, science and technology, future workforce, and technical program objectives for the Air Force.

Aerospace Propulsion.—The Committee is aware that ongoing research regarding dynamic engine sensors for military aircraft may increase safety and decrease operation and sustainment costs if the technology is fully matured. The Committee encourages the Department to continue to support innovative research on engine sensor technology with the goal of improving performance, safety, and fuel efficiency.

MQ-1 and MQ-9 Sense and Avoid Capability Development.—The Committee recommendation includes \$115,828,000 for enhancements to the MQ-9 Reaper remotely piloted aircraft [RPA]. Of the amount provided, no funds were requested by the Air Force for development of a sense and avoid capability. The Committee notes that the Air Force intends to base a portion of the overall fleet of MQ-1 and MQ-9 RPAs in the United States in the future, and that the scope of operations of any such aircraft would substantially depend on domestic rules currently under development by the Federal Aviation Administration. Specifically, absent any sense and avoid capability, the MQ-1 and MQ-9 aircraft could be largely restricted to restricted military airspace, which would greatly limit their potential use in support of domestic authorities in the event of a natural disaster or other domestic emergency. As a result, the Committee encourages the Air Force to examine options for a sense and avoid capability for MQ-1 and MQ-9 RPAs, and to include a sense and avoid development effort in future year budget requests.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE

Appropriations, 2013 ¹	\$18,607,358,000
Budget estimate, 2014	17,667,108,000
Committee recommendation	17,695,487,000

¹ Does not reflect the March 1, 2013, sequester of funds under Public Law 112-25.

The Committee recommends an appropriation of \$17,695,487,000. This is \$28,379,000 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	2014 budget estimate	Committee recommendation	Change from budget estimate
	RESEARCH, DEVELOPMENT, TEST & EVAL, DEFENSE-WIDE			
	BASIC RESEARCH			
1	DTRA UNIVERSITY STRATEGIC PARTNERSHIP BASIC RESEARCH ..	45,837	45,837	.....
2	DEFENSE RESEARCH SCIENCES	315,033	315,033	.....
3	BASIC RESEARCH INITIATIVES	11,171	11,171	.....
4	BASIC OPERATIONAL MEDICAL RESEARCH SCIENCE	49,500	49,500	.....
5	NATIONAL DEFENSE EDUCATION PROGRAM	84,271	84,271	.....
6	HISTORICALLY BLACK COLLEGES & UNIV (HBCU)	30,895	30,895	.....
7	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	51,426	51,426	.....
	TOTAL, BASIC RESEARCH	588,133	588,133	.....
	APPLIED RESEARCH			
8	JOINT MUNITIONS TECHNOLOGY	20,065	20,065	.....
9	BIOMEDICAL TECHNOLOGY	114,790	114,790	.....
11	LINCOLN LABORATORY RESEARCH PROGRAM	46,875	41,875	- 5,000
13	APPLIED RESEARCH FOR ADVANCEMENT S&T PRIORITIES	45,000	30,000	- 15,000
14	INFORMATION AND COMMUNICATIONS TECHNOLOGY	413,260	400,760	- 12,500
15	COGNITIVE COMPUTING SYSTEMS	16,330	16,330	.....
17	BIOLOGICAL WARFARE DEFENSE	24,537	24,537	.....
18	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	227,065	227,065	.....
20	CYBER SECURITY RESEARCH	18,908	18,908	.....
21	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING (HSCB) APP		2,500	+ 2,500
22	TACTICAL TECHNOLOGY	225,977	207,977	- 18,000
23	MATERIALS AND BIOLOGICAL TECHNOLOGY	166,654	166,654	.....
24	ELECTRONICS TECHNOLOGY	243,469	228,469	- 15,000
25	WEAPONS OF MASS DESTRUCTION DEFEAT TECHNOLOGIES	175,282	175,282	.....
26	SOFTWARE ENGINEERING INSTITUTE	11,107	11,107	.....
27	SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT	29,246	29,246	.....
	TOTAL, APPLIED RESEARCH	1,778,565	1,715,565	- 63,000
	ADVANCED TECHNOLOGY DEVELOPMENT			
28	JOINT MUNITIONS ADVANCED TECH INSENSITIVE MUNITIONS AD	26,646	26,646	.....
29	SO/LIC ADVANCED DEVELOPMENT	19,420	19,420	.....
30	COMBATING TERRORISM TECHNOLOGY SUPPORT	77,792	102,792	+ 25,000
31	COUNTERPROLIFERATION INITIATIVES—PROLIF PREV & DE- FEAT	274,033	274,033	.....
32	BALLISTIC MISSILE DEFENSE TECHNOLOGY	309,203	9,321	- 299,882
	ADVANCED CONCEPTS		6,919	+ 6,919
	DISCRIMINATION		36,142	+ 36,142
	WEAPONS TECHNOLOGY		53,208	+ 53,208
	ADVANCED C4ISR		43,000	+ 43,000
	ADVANCED RESEARCH		19,188	+ 19,188
32X	COMMON KILL VEHICLE TECHNOLOGY		70,000	+ 70,000
34	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	19,305	19,305	.....
35	AGILE TRANSPO FOR THE 21ST CENTURY (AT21)—THEATER CA	7,565	7,565	.....
36	SPECIAL PROGRAM—MDA TECHNOLOGY	40,426	40,426	.....
37	ADVANCED AEROSPACE SYSTEMS	149,804	134,804	- 15,000
38	SPACE PROGRAMS AND TECHNOLOGY	172,546	132,546	- 40,000
39	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—ADVANCED DEV	170,847	170,847	.....
40	JOINT ELECTRONIC ADVANCED TECHNOLOGY	9,009	9,009	.....
41	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	174,428	174,428	.....
42	NETWORKED COMMUNICATIONS CAPABILITIES	20,000	5,000	- 15,000
45	CYBER SECURITY ADVANCED RESEARCH	19,668	19,668	.....
46	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING (HSCB) ADV		2,500	+ 2,500
47	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROG	34,041	59,041	+ 25,000
48	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT	61,971	61,971	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
50	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS	20,000	20,000	.....
51	DEPLOYMENT AND DISTRIBUTION ENTERPRISE TECHNOLOGY	30,256	30,256	.....
52	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	72,324	72,324	.....
53	MICROELECTRONIC TECHNOLOGY DEVELOPMENT AND SUPPORT	82,700	82,700	.....
54	JOINT WARFIGHTING PROGRAM	8,431	8,431	.....
55	ADVANCED ELECTRONICS TECHNOLOGIES	117,080	107,080	- 10,000
57	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	239,078	239,078	.....
59	NETWORK-CENTRIC WARFARE TECHNOLOGY	259,006	259,006	.....
60	SENSOR TECHNOLOGY	286,364	276,364	- 10,000
61	DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT	12,116	12,116	.....
62	SOFTWARE ENGINEERING INSTITUTE	19,008	19,008	.....
63	QUICK REACTION SPECIAL PROJECTS	78,532	68,532	- 10,000
65	JOINT EXPERIMENTATION	12,667	12,667	.....
66	MODELING AND SIMULATION MANAGEMENT OFFICE	41,370	41,370	.....
69	TEST & EVALUATION SCIENCE & TECHNOLOGY	92,508	92,508	.....
70	OPERATIONAL ENERGY CAPABILITY IMPROVEMENT	52,001	52,001	.....
71	CWMD SYSTEMS	52,053	55,053	+ 3,000
72	SPECIAL OPERATIONS ADVANCED TECHNOLOGY DEVELOPMENT ..	46,809	46,809	.....
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	3,109,007	2,993,082	- 115,925
	DEMONSTRATION & VALIDATION			
75	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT	63,641	53,641	- 10,000
76	RETRACT LARCH	19,152	19,152	.....
77	WALKOFF	70,763	70,763	.....
79	ADVANCE SENSOR APPLICATIONS PROGRAM	17,230	19,230	+ 2,000
80	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM	71,453	71,453	.....
81	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	268,990	268,990	.....
82	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT ..	1,033,903	891,047	- 142,856
83	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	196,237	181,237	- 15,000
84	BALLISTIC MISSILE DEFENSE SENSORS	315,183	345,183	+ 30,000
86	BALLISTIC MISSILE DEFENSE ENABLING PROGRAMS	377,605	377,605	.....
87	SPECIAL PROGRAMS—MDA	286,613	286,613	.....
88	AEGIS BMD	937,056	910,056	- 27,000
89	SPACE SURVEILLANCE & TRACKING SYSTEM	44,947	44,947	.....
90	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS	6,515	6,515	.....
91	BALLISTIC MISSILE DEFENSE C2BMC	418,355	405,515	- 12,840
92	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT	47,419	47,419	.....
93	BALLISTIC MISSILE DEFENSE INTERGRATION AND OPERATIONS CENTER (MDIOC)	52,131	52,131	.....
94	REGARDING TRENCH	13,864	13,864	.....
95	SEA BASED X-BAND RADAR (SBX)	44,478	44,478	.....
96	ISRAELI COOPERATIVE PROGRAMS	95,782	268,782	+ 173,000
97	BALLISTIC MISSILE DEFENSE TEST	375,866	375,866	.....
98	BALLISTIC MISSILE DEFENSE TARGETS	495,257	495,257	.....
99	HUMANITARIAN DEMINING	11,704	11,704	.....
100	COALITION WARFARE	9,842	9,842	.....
101	DEPARTMENT OF DEFENSE CORROSION PROGRAM	3,312	23,312	+ 20,000
102	ADVANCED INNOVATIVE TECHNOLOGIES	130,000	130,000	.....
103	DOD UNMANNED AIRCRAFT SYSTEM (UAS) COMMON DEVELOPMENT	8,300	8,300	.....
104	WIDE AREA SURVEILLANCE	30,000	30,000	.....
105	HUMAN, SOCIAL AND CULTURE BEHAVIOR MODELING (HSCB) RES		2,500	+ 2,500
	DEFENSE RAPID INNOVATION FUND		150,000	+ 150,000
108	JOINT SYSTEMS INTEGRATION	7,402	7,402	.....
110	JOINT FIRES INTEGRATION & INTEROPERABILITY TEAM	7,506	7,506	.....
111	LAND-BASED SM-3 (LBSM3)	129,374	129,374	.....
112	AEGIS SM-3 BLOCK IIA CO-DEVELOPMENT	308,522	308,522	.....
115	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	3,169	3,169	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
116	CYBER SECURITY INITIATIVE	946	946	.....
	TOTAL, DEMONSTRATION & VALIDATION	5,902,517	6,072,321	+ 169,804
	ENGINEERING & MANUFACTURING DEVELOPMENT			
118	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY			
	EQUIPMENT	8,155	8,155	.....
119	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT	65,440	65,440	.....
120	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	451,306	421,306	- 30,000
122	ADVANCED IT SERVICES JOINT PROGRAM OFFICE (AITS-JPO)	29,138	29,138	.....
123	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)	19,475	19,475	.....
124	WEAPONS OF MASS DESTRUCTION DEFEAT CAPABILITIES	12,901	12,901	.....
125	INFORMATION TECHNOLOGY DEVELOPMENT	13,812	13,812	.....
126	HOMELAND PERSONNEL SECURITY INITIATIVE	386	386	.....
127	DEFENSE EXPORTABILITY PROGRAM	3,763	3,763	.....
128	OUS(D) IT DEVELOPMENT INITIATIVES	6,788	6,788	.....
129	DOD ENTERPRISE SYSTEMS DEVELOPMENT AND DEMONSTRATION	27,917	27,917	.....
130	DCMO POLICY AND INTEGRATION	22,297	22,297	.....
131	DEFENSE AGENCY INITIATIVES FINANCIAL SYSTEM	51,689	51,689	.....
132	DEFENSE-WIDE ELECTRONIC PROCUREMENT CAPABILITY	6,184	6,184	.....
133	GLOBAL COMBAT SUPPORT SYSTEM	12,083	12,083	.....
134	DOD ENTERPRISE ENERGY INFORMATION MANAGEMENT (EEIM)	3,302	3,302	.....
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	734,636	704,636	- 30,000
	RDT&E MANAGEMENT SUPPORT			
135	DEFENSE READINESS REPORTING SYSTEM (DRRS)	6,393	6,393	.....
136	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	2,479	2,479	.....
137	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT	240,213	240,213	.....
138	ASSESSMENTS AND EVALUATIONS	2,127	2,127	.....
139	THERMAL VICAR	8,287	8,287	.....
140	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMTEC)	31,000	31,000	.....
141	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	24,379	24,379	.....
143	FOREIGN MATERIAL ACQUISITION AND EXPLOITATION	54,311	54,311	.....
144	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION	47,462	47,462	.....
145	CLASSIFIED PROGRAM USD(P) .....	.....	106,000	+ 106,000
146	FOREIGN COMPARATIVE TESTING	12,134	12,134	.....
147	SYSTEMS ENGINEERING	44,237	44,237	.....
148	STUDIES AND ANALYSIS SUPPORT	5,871	5,871	.....
149	NUCLEAR MATTERS—PHYSICAL SECURITY	5,028	5,028	.....
150	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	6,301	6,301	.....
151	GENERAL SUPPORT TO USD (INTELLIGENCE)	6,504	6,504	.....
152	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	92,046	92,046	.....
158	SMALL BUSINESS INNOVATION RESEARCH/CHALLENGE ADMINISTR	1,868	1,868	.....
159	DEFENSE TECHNOLOGY ANALYSIS	8,362	8,362	.....
160	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	56,024	46,024	- 10,000
161	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING & EVALUATION	6,908	6,908	.....
162	DEVELOPMENT TEST AND EVALUATION	15,451	15,451	.....
164	MANAGEMENT HEADQUARTERS (RESEARCH & DEVELOPMENT)	71,659	71,659	.....
165	BUDGET AND PROGRAM ASSESSMENTS	4,083	4,083	.....
167	OPERATIONS SECURITY (OPSEC)	5,306	5,306	.....
168	JOINT STAFF ANALYTICAL SUPPORT	2,097	2,097	.....
172	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES	8,394	8,394	.....
175	INTELLIGENCE SUPPORT TO INFORMATION OPERATIONS (IO)	7,624	7,624	.....
178	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION.	43,247	43,247	.....
179	MANAGEMENT HEADQUARTERS—MDA	37,712	37,712	.....
180	IT SOFTWARE DEV INITIATIVES	607	607	.....
	CLASSIFIED PROGRAMS	54,914	54,914	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
	TOTAL, RDT&E MANAGEMENT SUPPORT	913,028	1,009,028	+ 96,000
	OPERATIONAL SYSTEMS DEVELOPMENT			
182	ENTERPRISE SECURITY SYSTEM (ESS)	7,552	7,552	.....
183	REGIONAL INTERNATIONAL OUTREACH & PARTNERSHIP FOR PEAC	3,270	3,270	.....
184	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SY	287	287	.....
185	INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT SUPPORT	14,000	14,000	.....
186	OPERATIONAL SYSTEMS DEVELOPMENT	1,955	1,955	.....
187	GLOBAL THEATER SECURITY COOPERATION MANAGEMENT	13,250	13,250	.....
188	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS D)	13,026	13,026	.....
190	JOINT INTEGRATION AND INTEROPERABILITY	12,652	12,652	.....
191	PLANNING AND DECISION AID SYSTEM	3,061	3,061	.....
192	C4I INTEROPERABILITY	72,726	72,726	.....
194	JOINT/ALLIED COALITION INFORMATION SHARING	6,524	6,524	.....
201	NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT	512	512	.....
202	DEFENSE INFO INFRASTRUCTURE ENGINEERING & INTEGRATION	12,867	10,867	- 2,000
203	LONG HAUL COMMUNICATIONS (DCS)	36,565	30,565	- 6,000
204	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	13,144	13,144	.....
205	PUBLIC KEY INFRASTRUCTURE (PKI)	1,060	1,060	.....
206	KEY MANAGEMENT INFRASTRUCTURE (KMI)	33,279	33,279	.....
207	INFORMATION SYSTEMS SECURITY PROGRAM	10,673	10,673	.....
208	INFORMATION SYSTEMS SECURITY PROGRAM	181,567	181,567	.....
210	GLOBAL COMMAND AND CONTROL SYSTEM	34,288	34,288	.....
211	JOINT SPECTRUM CENTER	7,741	7,741	.....
212	NET-CENTRIC ENTERPRISE SERVICES (NCES)	3,325	3,325	.....
213	JOINT MILITARY DECEPTION INITIATIVE	1,246	1,246	.....
214	TELEPORT PROGRAM	5,147	5,147	.....
216	SPECIAL APPLICATIONS FOR CONTINGENCIES	17,352	17,352	.....
220	CYBER SECURITY INITIATIVE	3,658	3,658	.....
221	CRITICAL INFRASTRUCTURE PROTECTION (CIP)	9,752	9,752	.....
225	POLICY R&D PROGRAMS	3,210	4,210	+ 1,000
227	NET CENTRICITY	21,602	21,602	.....
230	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	5,195	5,195	.....
233	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	3,348	3,348	.....
235	MQ-1 PREDATOR A UAV	641	641	.....
238	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM	2,338	2,338	.....
239	INT'L INTELLIGENCE TECHNOLOGY ASSESSMENT, ADVANCEMENT	4,372	4,372	.....
247	INDUSTRIAL PREPAREDNESS	24,691	24,691	.....
248	LOGISTICS SUPPORT ACTIVITIES	4,659	4,659	.....
249	MANAGEMENT HEADQUARTERS (JCS)	3,533	3,533	.....
250	MQ-9 UAV	1,314	13,314	+ 12,000
254	SPECIAL OPERATIONS AVIATION SYSTEMS ADVANCED DEV	156,561	156,561	.....
256	SPECIAL OPERATIONS INTELLIGENCE SYSTEMS DEVELOPMENT	7,705	7,705	.....
257	SOF OPERATIONAL ENHANCEMENTS	42,620	42,620	.....
261	WARRIOR SYSTEMS	17,970	17,970	.....
262	SPECIAL PROGRAMS	7,424	7,424	.....
268	SOF TACTICAL VEHICLES	2,206	2,206	.....
271	SOF UNDERWATER SYSTEMS	18,325	18,325	.....
274	SOF GLOBAL VIDEO SURVEILLANCE ACTIVITIES	3,304	3,304	.....
275	SOF OPERATIONAL ENHANCEMENTS INTELLIGENCE	16,021	16,021	.....
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	867,518	872,518	+ 5,000
999	CLASSIFIED PROGRAMS	3,773,704	3,740,204	- 33,500
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, DEF-WIDE	17,667,108	17,695,487	+ 28,379

COMMITTEE RECOMMENDED ADJUSTMENTS

The following table details the adjustments recommended by the Committee:

[In thousands of dollars]

Line	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
11	Lincoln Laboratory Research Program	46,875	41,875	- 5,000
	Authorization adjustment			- 5,000
13	Applied Research for the Advancement of S&T Priorities	45,000	30,000	- 15,000
	Authorization adjustment: PSC S&T reduction			- 15,000
14	Information & Communications Technology	413,260	400,760	- 12,500
	Authorization adjustment: Plan X increase			+ 2,500
	Restoring acquisition accountability: Program growth			- 15,000
21	Human, Social and Culture Behavior Modeling [HSCB] Applied Research		2,500	+ 2,500
	Authorization adjustment: HSCB Applied Research			+ 2,500
22	Tactical Technology	225,977	207,977	- 18,000
	Program cancellation			- 10,000
	Improving funds management: Prior year carry over			- 8,000
24	Electronics Technology	243,469	228,469	- 15,000
	Restoring acquisition accountability: Program growth			- 10,000
	Improving funds management: Prior year carry over			- 5,000
30	Combating Terrorism Technology Support	77,792	102,792	+ 25,000
	Restore unjustified reduction			+ 25,000
32	Ballistic Missile Defense Technology	309,203	9,321	- 299,882
	Improving funds management: Transfer funds to lines 32A-F for execution			- 299,882
32A	Advanced Concepts and Performance Assessment		6,919	+ 6,919
	Improving funds management: Transfer from line 32 for Advanced Concepts and Performance Assessment			+ 6,919
32B	Discrimination Sensor Technology		36,142	+ 36,142
	Improving funds management: Transfer from line 32 for Discrimination Sensor Technology			+ 18,742
	Improving funds management: Transfer from line 32 for Discrimination Algorithms			+ 6,500
	Improving funds management: Transfer from line 32 for Space Sensor Technology			+ 10,900
32C	Weapons Technology		53,208	+ 53,208
	Improving funds management: Transfer from line 32 for High Power Directed Energy			+ 22,944
	Improving funds management: Transfer from line 32 for Solid DACS			+ 24,000
	Improving funds management: Transfer from line 32 for Advanced Interceptor Technology			+ 6,264
32D	Advanced C4ISR		43,000	+ 43,000
	Improving funds management: Transfer from line 32 for Advanced C4ISR			+ 43,000
32E	Advanced Research		19,188	+ 19,188
	Improving funds management: Transfer from line 32 for Advanced Research			+ 19,188
32F	Common Kill Vehicle Technology		70,000	+ 70,000
	Improving funds management: Transfer from line 32 for Common Kill Vehicle Technologies			+ 70,000
37	Advanced Aerospace Systems	149,804	134,804	- 15,000
	Improving funds management: Prior year carryover			- 10,000
	Program termination: Integrated Sensor is Structure (ISIS)			- 5,000
38	Space Programs and Technology	172,546	132,546	- 40,000
	Program termination: SeeMe			- 10,000
	Program termination: System F6			- 30,000
42	Networked Communications Capabilities	20,000	5,000	- 15,000
	Authorization adjustment: Net Comm reduction			- 15,000
46	Human, Social and Culture Behavior Modeling [HSCB] Advanced Development		2,500	+ 2,500
	Authorization adjustment: HSCB Advanced Development			+ 2,500

[In thousands of dollars]

Line	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
47	Defense-Wide Manufacturing Science and Technology Program	34,041	59,041	+ 25,000
	Authorization adjustment: Industrial Base Initiative Fund			+ 25,000
55	Advanced Electronics Technologies	117,080	107,080	- 10,000
	Improving funds management: Prior year carryover			- 10,000
60	Sensor Technology	286,364	276,364	- 10,000
	Maintaining program affordability: Eliminate program growth			- 10,000
63	Quick Reaction Special Projects	78,532	68,532	- 10,000
	Maintaining program affordability: Eliminate program growth			- 10,000
71	CWMD Systems	52,053	55,053	+ 3,000
	Authorization adjustment: CWMD Systems			+ 3,000
75	Nuclear and Conventional Physical Security Equipment RDT&E ADC&P	63,641	53,641	- 10,000
	Budget documentation disparity: Poor justification materials			- 10,000
79	Advanced Sensors Application Program	17,230	19,230	+ 2,000
	Authorization adjustment			+ 2,000
82	Ballistic Missile Defense Midcourse Defense Segment	1,033,903	891,047	- 142,856
	Improving funds management: Transfer sustainment funds to operation and maintenance, defense-wide for execution			- 142,856
83	Chemical and Biological Defense Program—Dem/Val	196,237	181,237	- 15,000
	Restoring acquisition accountability: NGCS Schedule delay			- 5,000
	Restoring acquisition accountability: VAC FILO Schedule delay			- 10,000
84	Ballistic Missile Defense Sensors	315,183	345,183	+ 30,000
	Maintain Cobra Judy to augment discrimination capability			+ 30,000
88	AEGIS BMD	937,056	910,056	- 27,000
	Restoring acquisition accountability: Aegis BMD 5.1 development cost growth			- 27,000
91	Ballistic Missile Defense Command and Control, Battle Management and Communication	418,355	405,515	- 12,840
	Restoring acquisition accountability: Lack of Spiral 8.2x baseline			- 5,937
	Restoring acquisition accountability: Spiral 8.4 deferred by MDA			- 6,903
96	Israeli Cooperative Programs	95,782	268,782	+ 173,000
	Israeli Upper tier			+ 22,100
	Israeli Arrow program			+ 33,700
	Short range ballistic missile defense			+ 117,200
101	Department of Defense Corrosion Program	3,312	23,312	+ 20,000
	Program increase			+ 20,000
105	Human, Social and Culture Behavior Modeling [HSCB] Research and Engineering		2,500	+ 2,500
	Authorization adjustment			+ 2,500
106	Defense Rapid Innovation Program		150,000	+ 150,000
	Authorization adjustment			+ 150,000
120	Chemical and Biological Defense Program—EMD	451,306	421,306	- 30,000
	Restoring acquisition accountability: JEM milestone B delay			- 2,000
	Restoring acquisition accountability: JBTD milestone B delay			- 4,000
	Restoring acquisition accountability: CALS milestone B delay			- 7,000
	Restoring acquisition accountability: HFV milestone B delay			- 10,000
	Restoring acquisition accountability: VAC BOT execution delay			- 7,000
145	Classified Program USD(P)		106,000	+ 106,000

[In thousands of dollars]

Line	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
	Program increase			+ 106,000
160	Defense Technical Information Center (DTIC)	56,024	46,024	- 10,000
	Authorization adjustment: DTIC reduction			- 10,000
202	Defense Info Infrastructure Engineering and Integration	12,867	10,867	- 2,000
	Improving Funds Management: Prior year carryover			- 2,000
203	Long-Haul Communications—DCS	36,565	30,565	- 6,000
	Improving Funds Management: Prior year carryover			- 6,000
225	Policy R&D Programs	3,210	4,210	+ 1,000
	Authorization adjustment: Conflict Records Research Center			+ 1,000
250	MQ-9 UAV	1,314	13,314	+ 12,000
	Authorization adjustment: MQ-9 UAV			+ 12,000
	Classified Programs	3,773,704	3,740,204	- 33,500
	Classified adjustment			- 33,500

Conventional Prompt Global Strike.—The fiscal year 2014 budget request includes \$65,440,000 to continue the Prompt Global Strike [PGS] program, a decrease from \$200,383,000 appropriated in fiscal year 2013. The Committee continues to support development of a PGS capability but recognizes the challenges associated with hypersonic flight. For example, after two failed flight tests, the Defense Advanced Research Project Agency determined that critical technologies associated with hypersonic test vehicle-2 were not mature enough to proceed to more advanced flight testing. However, the Committee notes the Army conducted a successful flight test of the advanced hypersonic weapon [AHW] on November, 17, 2011. Considering recent test outcomes and the growing possibility of near term threats, the Committee directs the Secretary of Defense to follow through on the stated intent of additional fiscal year 2013 funding provided for continued planning and completion of a second, longer range AHW flight test. Also considering the fiscal constraints under which the Department is operating, the Committee directs the Secretary to avoid commitments that will cause funds to be used for design or development efforts intended to support a significant departure from HTV-2 or the Army's AHW payload delivery vehicle designs.

Under Vehicle Scanning Technologies.—The Committee believes that improving under vehicle scanning technologies to mitigate threats and improve access to military installations should be a priority. The Committee recommends that the Department of Defense develop and test systems for automated under vehicle scanning to improve entry security.

Corrosion Resistance and Non-Skid Compliance.—The Committee recommends that the Department of Defense Corrosion Program advance Navy fuel and ballast tank corrosion monitoring and non-skid coating compliance efforts throughout the Department of Defense's maintenance community.

Assured Microelectronics.—The Committee understands that the Department of Defense issued an instruction which mandates assurance measures for all information and weapons systems that are national security systems, mission assurance category one, or are otherwise critical military and intelligence systems. The Committee directs the Department to deliver a report within 180 days

of the enactment of this act on the progress implementing this assured microelectronics policy.

Lightweight Vehicle Protection.—As the Department becomes more environmentally friendly, hybrid and electronically powered vehicles with reduced weight allowances may require tradeoffs in protection, payload and performance that could place troops at risk. The Committee recommends that the Department of Defense develop lighter weight protection systems optimized for such vehicles.

Open Access to Federal Research.—The Committee is concerned that despite significant Federal investments in scientific research, public access to the published results are limited. Improved access to cutting edge research will help individuals and commercial enterprises more rapidly translate research results into new products and services. To that end, the Committee encourages the Department of Defense to continue its actions to execute the Federal research public access policy recommendations as outlined by the Office of Science and Technology Policy in an effort to increase public access to published scientific research.

Central Test and Evaluation Investment Program [CTEIP] Range Upgrades.—The Committee is concerned with the condition of the high speed test tracks at military test ranges. These tracks provide significant missile and missile component validation which can at times eliminate costly tests using air launched vehicles. Therefore, the Committee encourages the Department of Defense, through the Central Test and Evaluation Investment Program, to develop ground test range upgrades that provide low vibration Mach 3 speeds for testing of advanced missiles and their components, launch vehicles, or other space systems.

MISSILE DEFENSE AGENCY

Ballistic Missile Defense Technology.—The fiscal year 2014 budget request includes \$309,203,000 for ballistic missile defense technology research, an increase of \$233,228,000, or 307 percent, over amounts appropriated in fiscal year 2013. The Missile Defense Agency plans to execute these funds for six distinct projects, each containing multiple subprojects. However, the requested budget increase is not sustained in future years. Therefore, to ensure appropriate oversight among the many projects MDA plans to pursue, and to improve the financial management of technology research funds, the Committee transfers funds requested in fiscal year 2014 to six separate project elements, consistent with MDA's budget justification.

Acquisition Accountability in Development Programs.—The fiscal year 2014 budget request includes \$937,056,000 to continue the development of multiple spirals of Aegis ballistic missile defense [BMD] capabilities. While the Committee notes the repeated success of the Aegis weapons system, the budget request includes roughly \$500,000,000 for the concurrent development of Aegis BMD 4.0, Aegis BMD 5.0, and Aegis BMD 5.1. Since 2007, MDA has obligated over \$450,000,000 for development of Aegis BMD 5.1, and the budget request for Aegis BMD 5.1 in fiscal year 2014 is \$239,000,000. Despite the significant investment made to date in Aegis BMD 5.1 and the funding increase requested in fiscal year 2014, MDA has not completed an acquisition program baseline for

Aegis BMD 5.1. Further, the Government Accountability Office in its April 2013 report identified unstable baselines as well as cost growth in the Aegis program. Therefore, the Committee does not fully support the increase sought for Aegis BMD 5.1, and recommends a reduction of \$27,000,000.

In addition, the fiscal year 2014 budget request includes \$418,355,000 for continued development of BMD command and control, battle management and communications [C2BMC]. The Committee fully supports the continued development of C2BMC. However, the request includes \$6,903,000 for spiral 8.4 which has been deferred by MDA, and \$6,937,000 to initiate a new spiral (8.2x) for which MDA has budgeted over \$120,000,000 over the next 5 years. Furthermore, no cost or schedule baseline for spiral 8.2x has been established. Given the repeated adjustments to MDA’s software development program baselines in recent years, the Committee does not find it appropriate to establish yet another new development spiral without first establishing cost and schedule baselines. Therefore, the Committee recommends a reduction to the request for spiral 8.2x. The Committee notes that this does not affect the continued development and fielding of spirals 6.4 and 8.2.

Sharing of Classified United States Ballistic Missile Defense Information With the Russian Federation.—The Committee is concerned with the potential security risks associated with sharing sensitive U.S. missile defense data and technology with the Russian Federation. The Committee recognizes existing law restricts the sharing of sensitive and classified ballistic missile defense information with the Russian Federation, as cited in Public Law 112–81, the National Defense Authorization Act for Fiscal Year 2012. The Committee expects the administration to continue to adhere to current law, until superseded by any provision of an act authorizing appropriations for the Department of Defense for fiscal year 2014 relating to this issue.

OPERATIONAL TEST AND EVALUATION, DEFENSE

Appropriations, 2013 ¹	\$223,473,000
Budget estimate, 2014	186,300,000
Committee recommendation	186,300,000

¹ Does not reflect the March 1, 2013, sequester of funds under Public Law 112–25.

The Committee recommends an appropriation of \$186,300,000. 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	2014 budget estimate	Committee recommendation	Change from budget estimate
	OPERATIONAL TEST AND EVALUATION, DEFENSE			
	RDT&E MANAGEMENT SUPPORT			
1	OPERATIONAL TEST AND EVALUATION	75,720	75,720	.....
2	LIVE FIRE TESTING	48,423	48,423	.....

[In thousands of dollars]

	Item	2014 budget estimate	Committee recommendation	Change from budget estimate
3	OPERATIONAL TEST ACTIVITIES AND ANALYSES	62,157	62,157	.....
	TOTAL, RDT&E MANAGEMENT SUPPORT	186,300	186,300	.....
	TOTAL, OPERATIONAL TEST AND EVALUATION, DEFENSE	186,300	186,300	.....