TITLE IV

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

The fiscal year 2017 Department of Defense research, development, test and evaluation budget request totals $71,391,771,000. The Committee recommendation provides $70,285,388,000 for the research, development, test and evaluation accounts. The table below summarizes the Committee recommendations:

(DOLLARS IN THOUSANDS)

	BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
RECAPITULATION			
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY	7,515,399	7,857,017	+341,618
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY	17,276,301	16,831,290	-445,011
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, AIR FORCE	28,112,251	27,106,851	-1,005,400
RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE	18,308,826	18,311,236	+2,410
OPERATIONAL TEST AND EVALUATION, DEFENSE	178,994	178,994	---
GRAND TOTAL, RDT&E	71,391,771	70,285,388	-1,106,383

REPROGRAMMING GUIDANCE FOR ACQUISITION ACCOUNTS

The Committee directs the Secretary of Defense to continue to follow the reprogramming guidance as specified in the report accompanying the House version of the Department of Defense Appropriations bill, 2008 (House Report 110–279). Specifically, the dollar threshold for reprogramming funds will remain at $20,000,000 for procurement and $10,000,000 for research, development, test and evaluation.

Also, the Committee directs the Under Secretary of Defense (Comptroller) to continue to provide the congressional defense committees quarterly, spreadsheet-based DD Form 1416 reports for Service and defense-wide accounts in titles III and IV of this Act. Reports for titles III and IV shall comply with the guidance specified in the explanatory statement accompanying the Department of Defense Appropriations Act, 2006. The Department shall continue to follow the limitation that prior approval reprogrammings are set at either the specified dollar threshold or 20 percent of the procurement or research, development, test and evaluation line, whichever is less. These thresholds are cumulative from the Base for Reprogramming value as modified by any adjustments. Therefore, if the combined value of transfers into or out of a procurement (P–1) or research, development, test and evaluation (R–1) line exceeds the identified threshold, the Secretary of Defense must submit a prior approval reprogramming to the congressional defense committees. In addition, guidelines on the application of prior approval reprogramming procedures for congressional special interest items are established elsewhere in this report.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION SPECIAL INTEREST ITEMS

Items for which additional funds have been provided as shown in the project level tables or in paragraphs using the phrase "only for" or "only to" in this report are congressional special interest items for the purpose of the Base for Reprogramming (DD Form 1414). Each of these items must be carried on the DD Form 1414 at the stated amount specifically addressed in the Committee report. These items remain special interest items whether or not they are repeated in a subsequent conference report.

FUNDING INCREASES

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

CLASSIFIED ANNEX

Adjustments to the classified programs are addressed in a classified annex accompanying this report.

JOINT STRIKE FIGHTER FOLLOW-ON DEVELOPMENT

The Committee notes that a recent report by the Government Accountability Office (GAO) found that the cost and character of follow-on development for the F–35 Joint Strike Fighter (JSF), also known as Block 4, would require designation as a Major Defense

Acquisition Program (MDAP) if it were constituted as a separate program rather than being managed within the baseline of the overall JSF program. The GAO found that the current management of follow-on development exposed this effort to greater cost and schedule risk and potentially could confound congressional oversight. The GAO recommended that the Department of Defense manage follow-on development as a separate and distinct MDAP. The Department did not concur with this recommendation on the grounds that existing oversight mechanisms and potential actions, such as an independent cost estimate, would provide sufficient transparency and accountability. The Committee believes that the quality of information provided to the Congress is more important than the formal designation of follow-on development as an MDAP or the bureaucratic foundation that would be required to support its management as such, as long as the Department is able and willing to provide the information needed for congressional oversight. Therefore, the Committee directs the Secretary of Defense to submit, not later than 30 days after the submission of the fiscal year 2018 budget request, a report to the congressional defense committees on JSF follow-on development containing information similar to that provided in a comprehensive annual selected acquisition report, with additional information as necessary to clarify the content, scope, and phasing of the capabilities to be acquired for all variants of the JSF. This report may be submitted with a classified annex if necessary.

JOINT STRIKE FIGHTER AUTONOMIC LOGISTICS INFORMATION SYSTEM

The Committee remains concerned with the development of the Autonomic Logistics Information System (ALIS) for the F–35 Joint Strike Fighter (JSF). ALIS has repeatedly been identified by Department of Defense officials, congressional defense committees, and the Government Accountability Office as a major source of both developmental and operational risk for the JSF program. The Committee understands that the F–35 Joint Program Office is in the process of developing a "Technical Roadmap" for ALIS to inform the fiscal year 2018 budget request. The Committee directs the Secretary of Defense to submit a report to the congressional defense committees on the "Technical Roadmap" not later than 30 days following its approval along with the most recent cost estimates for ALIS.

JOINT STRIKE FIGHTER TEST AIRCRAFT

The Committee recommendation for Joint Strike Fighter development includes $251,700,000, the same as the request, to modify operational test aircraft to the Block 3F configuration in support of initial operational test and evaluation (IOT&E). The Committee expects that the Secretary of Defense will allocate aircraft to support both developmental and operational testing consistent with the approved Test and Evaluation Master Plan. The Committee further urges the Secretary of Defense to ensure that necessary modifications to operational test aircraft will be given appropriate priority in the depot flow plan to meet the IOT&E timeline.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY

Fiscal year 2016 appropriation	$7,565,327,000
Fiscal year 2017 budget request	7,515,399,000
Committee recommendation	7,857,017,000
Change from budget request	+341,618,000

The Committee recommends an appropriation of $7,857,017,000 for Research, Development, Test and Evaluation, Army which will provide the following program in fiscal year 2017:

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY			
	BASIC RESEARCH			
1	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	12,381	12,381	---
2	DEFENSE RESEARCH SCIENCES	253,116	253,116	---
3	UNIVERSITY RESEARCH INITIATIVES	69,166	69,166	---
4	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	94,280	99,280	+5,000
	TOTAL, BASIC RESEARCH	428,943	433,943	+5,000
	APPLIED RESEARCH			
5	MATERIALS TECHNOLOGY	31,533	51,533	+20,000
6	SENSORS AND ELECTRONIC SURVIVABILITY	36,109	36,109	---
7	TRACTOR HIP	6,995	6,995	---
8	AVIATION TECHNOLOGY	65,914	65,914	---
9	ELECTRONIC WARFARE TECHNOLOGY	25,466	35,466	+10,000
10	MISSILE TECHNOLOGY	44,313	52,813	+8,500
11	ADVANCED WEAPONS TECHNOLOGY	28,803	38,803	+10,000
12	ADVANCED CONCEPTS AND SIMULATION	27,688	27,688	---
13	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	67,959	67,959	---
14	BALLISTICS TECHNOLOGY	85,436	85,436	---
15	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	3,923	3,923	---
16	JOINT SERVICE SMALL ARMS PROGRAM	5,545	5,545	---
17	WEAPONS AND MUNITIONS TECHNOLOGY	53,581	90,081	+36,500
18	ELECTRONICS AND ELECTRONIC DEVICES	56,322	62,322	+6,000
19	NIGHT VISION TECHNOLOGY	36,079	36,079	---
20	COUNTERMINE SYSTEMS	26,497	26,497	---
21	HUMAN FACTORS ENGINEERING TECHNOLOGY	23,671	23,671	---
22	ENVIRONMENTAL QUALITY TECHNOLOGY	22,151	22,151	---
23	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	37,803	37,803	---
24	COMPUTER AND SOFTWARE TECHNOLOGY	13,811	13,811	---
25	MILITARY ENGINEERING TECHNOLOGY	67,416	67,416	---
26	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	26,045	26,045	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
27	WARFIGHTER TECHNOLOGY	37,403	48,403	+11,000
28	MEDICAL TECHNOLOGY	77,111	79,111	+2,000
	TOTAL, APPLIED RESEARCH	907,574	1,011,574	+104,000
	ADVANCED TECHNOLOGY DEVELOPMENT			
29	WARFIGHTER ADVANCED TECHNOLOGY	38,831	38,831	---
30	MEDICAL ADVANCED TECHNOLOGY	68,365	99,365	+31,000
31	AVIATION ADVANCED TECHNOLOGY	94,280	112,280	+18,000
32	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	68,714	159,214	+90,500
33	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	122,132	138,132	+16,000
34	SPACE APPLICATION ADVANCED TECHNOLOGY	3,904	3,904	---
35	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	14,417	14,417	---
37	TRACTOR HIKE	8,074	8,074	---
38	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	18,969	18,969	---
39	TRACTOR ROSE	11,910	11,910	---
40	COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT	27,686	27,686	---
41	TRACTOR NAIL	2,340	2,340	---
42	TRACTOR EGGS	2,470	2,470	---
43	ELECTRONIC WARFARE TECHNOLOGY	27,893	27,893	---
44	MISSILE AND ROCKET ADVANCED TECHNOLOGY	52,190	85,690	+33,500
45	TRACTOR CAGE	11,107	11,107	---
46	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM	177,190	177,190	---
47	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	17,451	17,451	---
48	JOINT SERVICE SMALL ARMS PROGRAM	5,839	13,839	+8,000
49	NIGHT VISION ADVANCED TECHNOLOGY	44,468	44,468	---
50	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	11,137	11,137	---
51	MILITARY ENGINEERING ADVANCED TECHNOLOGY	20,684	23,684	+3,000
52	ADVANCED TACTICAL COMPUTER SCIENCE & SENSOR TECHNOLOGY	44,239	44,239	---
53	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	35,775	35,775	---
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	930,065	1,130,065	+200,000

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	DEMONSTRATION & VALIDATION			
54	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	9,433	14,433	+5,000
55	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (SPACE)	23,056	23,056	---
56	LANDMINE WARFARE AND BARRIER - ADV DEV	72,117	72,117	---
57	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	28,244	28,244	---
58	TANK AND MEDIUM CALIBER AMMUNITION	40,096	40,096	---
59	SOLDIER SUPPORT AND SURVIVABILITY	10,506	10,506	---
60	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - AD	15,730	15,730	---
61	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	10,321	10,321	---
62	ENVIRONMENTAL QUALITY TECHNOLOGY	7,785	7,785	---
63	NATO RESEARCH AND DEVELOPMENT	2,300	2,300	---
64	AVIATION - ADV DEV	10,014	10,014	---
65	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	20,834	20,834	---
66	MEDICAL SYSTEMS - ADV DEV	33,503	33,503	---
67	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	31,120	56,120	+25,000
68	ANALYSIS OF ALTERNATIVES	6,608	6,608	---
69	LOWER TIER AIR MISSILE DEFENSE (LTAMID) SENSOR	35,132	35,132	---
70	TECHNOLOGY MATURATION INITIATIVES	70,047	53,047	-17,000
71	ASSURED POSITIONING, NAVIGATION AND TIMING (PNT)	83,279	83,279	---
73	CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT	40,510	30,510	-10,000
	TOTAL, DEMONSTRATION & VALIDATION	550,635	553,635	+3,000

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	ENGINEERING & MANUFACTURING DEVELOPMENT			
74	AIRCRAFT AVIONICS	83,248	104,248	+21,000
75	ELECTRONIC WARFARE DEVELOPMENT	34,642	34,642	---
77	MID-TIER NETWORKING VEHICULAR RADIO	12,172	12,172	---
78	ALL SOURCE ANALYSIS SYSTEM	3,958	11,958	+8,000
79	TRACTOR CAGE	12,525	12,525	---
80	INFANTRY SUPPORT WEAPONS	66,943	68,443	+1,500
82	JAVELIN	20,011	20,011	---
83	FAMILY OF HEAVY TACTICAL VEHICLES	11,429	11,429	---
84	AIR TRAFFIC CONTROL	3,421	3,421	---
85	TACTICAL UNMANNED GROUND VEHICLE	39,282	39,282	---
86	LIGHT TACTICAL WHEELED VEHICLES	494	494	---
87	ARMORED SYSTEMS MODERNIZATION (ASM) - ENG DEV	9,678	9,678	---
88	NIGHT VISION SYSTEMS - SDD	84,519	84,519	---
89	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,054	2,054	---
90	NON-SYSTEM TRAINING DEVICES - SDD	30,774	30,774	---
91	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE -SDD	53,332	68,332	+15,000
92	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	17,887	17,887	---
93	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	8,813	8,813	---
94	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - SDD	10,487	10,487	---
95	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	15,068	15,068	---
96	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION	89,716	89,716	---
97	WEAPONS AND MUNITIONS - SDD	80,365	80,365	---
98	LOGISTICS AND ENGINEER EQUIPMENT - SDD	75,098	78,198	+3,100
99	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - SDD	4,245	4,245	---
100	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT	41,124	41,124	---
101	LANDMINE WARFARE/BARRIER - SDD	39,630	39,630	---
102	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	205,590	213,090	+7,500
103	RADAR DEVELOPMENT	15,983	15,983	---
104	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	6,805	6,805	---
105	FIREFINDER	9,235	9,235	---
106	SOLDIER SYSTEMS - WARRIOR DEM/VAL	12,393	12,393	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
107	ARTILLERY SYSTEMS	1,756	1,756	---
108	INFORMATION TECHNOLOGY DEVELOPMENT	74,236	74,236	---
109	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM (A-IMH	155,584	155,584	---
110	ARMORED MULTI-PURPOSE VEHICLE	184,221	184,221	---
111	INTEGRATED GROUND SECURITY SURVEILLANCE RESPONSE CAPABILITY (IGSSR-C)	4,980	4,980	---
112	JOINT TACTICAL NETWORK CENTER (JTNC)	15,041	15,041	---
113	JOINT TACTICAL NETWORK (JTN)	16,014	16,014	---
114	TRACTOR TIRE	27,254	27,254	---
115	GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM - EXPENDITIONARY (GBOSS-E)	5,032	5,032	---
116	TACTICAL SECURITY SYSTEM (TSS)	2,904	2,904	---
117	COMMON INFRARED COUNTERMEASURES (CIRCM)	96,977	96,977	---
118	COMBATING WEAPONS OF MASS DESTRUCTION (CWMD)	2,089	2,089	---
119	DEFENSIVE CYBER TOOL DEVELOPMENT	33,836	33,836	---
120	TACTICAL NETWORK RADIO SYSTEMS (LOW-TIER)	18,824	18,824	---
121	CONTRACT WRITING SYSTEM	20,663	20,663	---
122	AIRCRAFT SURVIVABILITY DEVELOPMENT	41,133	51,133	+10,000
123	INDIRECT FIRE PROTECTION CAPABILITY INC 2 - BLOCK 1	83,995	83,995	---
125	AMF JOINT TACTICAL RADIO SYSSTEM	5,028	5,028	---
126	JOINT AIR-TO-GROUND MISSILE (JAGM)	42,972	48,972	+6,000
127	PAC-2/MSE MISSILE	252,811	252,811	---
131	NATIONAL CAPABILITIES INTEGRATION	4,955	4,955	---
132	JOINT LIGHT TACTICAL VEHICLE ENG AND MANUFACTURING	11,530	11,530	---
133	AVIATION GROUND SUPPORT EQUIPMENT	2,142	2,142	---
134	PALADIN INTEGRATED MANAGEMENT (PIM)	41,498	41,498	---
135	TROJAN - RH12	4,273	4,273	---
136	ELECTRONIC WARFARE DEVELOPMENT	14,425	14,425	---
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	2,265,094	2,337,194	+72,100

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	RDT&E MANAGEMENT SUPPORT			
137	THREAT SIMULATOR DEVELOPMENT	25,675	25,675	---
138	TARGET SYSTEMS DEVELOPMENT	19,122	19,122	---
139	MAJOR T&E INVESTMENT	84,777	56,777	-28,000
140	RAND ARROYO CENTER	20,658	20,658	---
141	ARMY KWAJALEIN ATOLL	236,648	236,648	---
142	CONCEPTS EXPERIMENTATION PROGRAM	25,596	25,596	---
144	ARMY TEST RANGES AND FACILITIES	293,748	293,748	---
145	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	52,404	62,404	+10,000
146	SURVIVABILITY/LETHALITY ANALYSIS	38,571	38,571	---
147	AIRCRAFT CERTIFICATION	4,665	4,665	---
148	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	6,925	6,925	---
149	MATERIEL SYSTEMS ANALYSIS	21,677	21,677	---
150	EXPLOITATION OF FOREIGN ITEMS	12,415	12,415	---
151	SUPPORT OF OPERATIONAL TESTING	49,684	49,684	---
152	ARMY EVALUATION CENTER	55,905	55,905	---
153	ARMY MODELING AND SIMULATION X-CMD COLLABORATION AND INTEG	7,959	7,959	---
154	PROGRAMWIDE ACTIVITIES	51,822	51,822	---
155	TECHNICAL INFORMATION ACTIVITIES	33,323	33,323	---
156	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	40,545	50,545	+10,000
157	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	2,130	2,130	---
158	MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT)	49,885	49,885	---
159	DEFENSE MILITARY DECEPTION INITIATIVE	2,000	2,000	---
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,136,134	1,128,134	-8,000

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	OPERATIONAL SYSTEMS DEVELOPMENT			
161	MLRS PRODUCT IMPROVEMENT PROGRAM	9,663	9,663	---
162	TRACTOR PULL	3,960	3,960	---
163	ANTI-TAMPER TECHNOLOGY SUPPORT	3,638	3,638	---
164	WEAPONS AND MUNITIONS PRODUCT IMPROVEMENT PROGRAMS	14,517	14,517	---
165	TRACTOR SMOKE	4,479	4,479	---
166	LONG RANGE PRECISION FIRES (LRPF)	39,275	39,275	---
167	APACHE PRODUCT IMPROVEMENT PROGRAM	66,441	66,441	---
168	BLACKHAWK RECAP/MODERNIZATION	46,765	46,765	---
169	CHINOOK HELICOPTER PRODUCT IMPROVEMENT PROGRAM	91,848	91,848	---
170	FIXED WING AIRCRAFT	796	796	---
171	IMPROVED TURBINE ENGINE PROGRAM	126,105	126,105	---
172	EMERGING TECHNOLOGIES FROM NIE	2,369	2,369	---
173	LOGISTICS AUTOMATION	4,563	4,563	---
174	FAMILY OF BIOMETRICS	12,098	12,098	---
175	PATRIOT PRODUCT IMPROVEMENT	49,482	49,482	---
176	AEROSTAT JOINT PROJECT OFFICE	45,482	11,000	-34,482
178	JOINT AUTOMATED DEEP OPERATION COORDINATION SYSTEM	30,455	30,455	---
179	COMBAT VEHICLE IMPROVEMENT PROGRAMS	316,857	316,857	---
180	MANEUVER CONTROL SYSTEM	4,031	4,031	---
181	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	35,793	35,793	---
182	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	259	259	---
183	DIGITIZATION	6,483	6,483	---
184	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	5,122	5,122	---
185	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	7,491	7,491	---
186	TRACTOR CARD	20,333	20,333	---
188	MATERIALS HANDLING EQUIPMENT	124	124	---
190	LOWER TIER AIR AND MISSILE DEFENSE (AMD) SYSTEM	69,417	69,417	---
191	GUIDED MULTIPLE-LAUNCH ROCKET SYSTEM (GMLRS)	22,044	22,044	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
192	JOINT TACTICAL GROUND SYSTEM	12,649	12,649	---
194	SECURITY AND INTELLIGENCE ACTIVITIES	11,619	11,619	---
195	INFORMATION SYSTEMS SECURITY PROGRAM	38,280	38,280	---
196	GLOBAL COMBAT SUPPORT SYSTEM	27,223	27,223	---
197	SATCOM GROUND ENVIRONMENT (SPACE)	18,815	18,815	---
198	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	4,718	4,718	---
202	TACTICAL UNMANNED AERIAL VEHICLES	8,218	8,218	---
203	AIRBORNE RECONNAISSANCE SYSTEMS	11,799	11,799	---
204	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	32,284	32,284	---
205	MQ-1 SKY WARRIOR A UAV (MQ-1C GRAY EAGLE UAS)	13,470	13,470	---
206	RQ-11 UAV	1,613	1,613	---
207	RQ-7 UAV	4,597	4,597	---
209	WIN-T INCREMENT 2 - INITIAL NETWORKING	4,867	4,867	---
210	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	62,287	62,287	---
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	740,393	740,393	---
9999	CLASSIFIED PROGRAMS	4,625	4,625	---
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY	7,515,399	7,857,017	+341,618

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[In thousands of dollars]

R-1		Budget Request	Committee Recommended	Change from Request
4	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	94,280	99,280	5,000
	Materials in extreme dynamic environments		5,000	
5	MATERIALS TECHNOLOGY	31,533	51,533	20,000
	High performance polymers research		20,000	
9	ELECTRONIC WARFARE TECHNOLOGY	25,466	35,466	10,000
	Program increase		10,000	
10	MISSILE TECHNOLOGY	44,313	52,813	8,500
	Weapon effectiveness in urban engagement		8,500	
11	ADVANCED WEAPONS TECHNOLOGY	28,803	38,803	10,000
	Program increase		10,000	
17	WEAPONS AND MUNITIONS TECHNOLOGY	53,581	90,081	36,500
	Program increase		18,000	
	Guided tank fired round development for high mobility targets		8,500	
	Armament systems concepts		5,000	
	Hybrid projectile technology		5,000	
18	ELECTRONICS AND ELECTRONIC DEVICES	56,322	62,322	6,000
	Tactical and component power technology		2,000	
	Payload agnostic unmanned aerial systems		4,000	
27	WARFIGHTER TECHNOLOGY	37,403	48,403	11,000
	H98 clothing and equipment		5,000	
	Advanced active environmental control technology for expeditionary mobile base		6,000	
28	MEDICAL TECHNOLOGY	77,111	79,111	2,000
	Military operational medical research program		2,000	
30	MEDICAL ADVANCED TECHNOLOGY	68,365	99,365	31,000
	Peer-reviewed neurotoxin exposure treatment Parkinson's research		16,000	
	Peer-reviewed neurofibromatosis research		15,000	
31	AVIATION ADVANCED TECHNOLOGY	94,280	112,280	18,000
	Ballistic seating system		7,000	
	Future Vertical Lift		11,000	
32	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	68,714	159,214	90,500
	Program increase		42,000	
	Accelerate extended range cannon artillery		20,000	
	Laser defense system for small UAS		15,000	
	Weapon effectiveness in urban engagement		8,500	
	Armament systems integration		5,000	
33	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	122,132	138,132	16,000
	Combat vehicle weight reduction initiative		10,000	
	Advanced water harvesting technology		6,000	

R-1		Budget Request	Committee Recommended	Change from Request
44	**MISSILE AND ROCKET ADVANCED TECHNOLOGY**	**52,190**	**85,690**	**33,500**
	Cybersecurity and supply chain risk management research		10,000	
	GPS-guided weapon performance improvement		5,000	
	Next generation close combat missile		8,500	
	Armament systems concepts		5,000	
	Armament systems integration		5,000	
48	**JOINT SERVICE SMALL ARMS PROGRAM**	**5,839**	**13,839**	**8,000**
	Stryker 30mm programmable air burst ammunition		8,000	
51	**MILITARY ENGINEERING ADVANCED TECHNOLOGY**	**20,684**	**23,684**	**3,000**
	Secure management of energy generation and storage		3,000	
54	**ARMY MISSILE DEFENSE SYSTEMS INTEGRATION**	**9,433**	**14,433**	**5,000**
	High power microwave analysis and radio frequency platform protection		5,000	
67	**SOLDIER SYSTEMS - ADVANCED DEVELOPMENT**	**31,120**	**56,120**	**25,000**
	Enhanced lightweight body armor		25,000	
70	**TECHNOLOGY MATURATION INITIATIVES**	**70,047**	**53,047**	**-17,000**
	Excess growth		-17,000	
73	**CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT**	**40,510**	**30,510**	**-10,000**
	Inadequate justification		-10,000	
74	**AIRCRAFT AVIONICS**	**83,248**	**104,248**	**21,000**
	Assured positioning, navigation, and timing		21,000	
78	**ALL SOURCE ANALYSIS SYSTEM**	**3,958**	**11,958**	**8,000**
	Program increase		8,000	
80	**INFANTRY SUPPORT WEAPONS**	**66,943**	**68,443**	**1,500**
	Cannon life extension		1,500	
91	**AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE -SDD**	**53,332**	**68,332**	**15,000**
	Counter rocket, artillery, and mortar systems		15,000	
98	**LOGISTICS AND ENGINEER EQUIPMENT - SDD**	**75,098**	**78,198**	**3,100**
	Maneuver Support Vessel-Light contract delay		-8,000	
	Next generation vehicle camouflage technology		11,100	
102	**ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE**	**205,590**	**213,090**	**7,500**
	Solider borne sensor personal reconnaissance technology		7,500	
122	**AIRCRAFT SURVIVABILITY DEVELOPMENT**	**41,133**	**51,133**	**10,000**
	Modernized radar warning system		10,000	
126	**JOINT AIR-TO-GROUND MISSILE (JAGM)**	**42,972**	**48,972**	**6,000**
	Improved lethality and range		6,000	
139	**MAJOR T&E INVESTMENT**	**84,777**	**56,777**	**-28,000**
	Excess growth		-28,000	

R-1		Budget Request	Committee Recommended	Change from Request
145	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	52,404	62,404	10,000
	Cybersecurity of space and missile defense assets		10,000	
156	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	40,545	50,545	10,000
	Munitions standardization, effectiveness, and safety		10,000	
176	AEROSTAT JOINT PROJECT OFFICE	45,482	11,000	-34,482
	Excess funding due to program cancellation		-34,482	

WARFIGHTER LETHALITY

The Committee is adamant that in a hostile environment warfighters must enter a conflict with a decisive technical and capability advantage. Due to world events including state aggression, terrorism, and global weapons proliferation, in the report accompanying the House-passed Department of Defense Appropriations Act, 2015, the Committee directed the Secretary of the Army to conduct a study focused on the status of lethal mechanisms such as armament systems, munitions, and missiles. The study identified numerous areas of concern including, but not limited to, the loss of weapons range overmatch, reductions in the use of area weapons, the proliferation of low-cost commercially available unmanned aerial systems, urban scenarios and associated humanitarian concerns, and sub-optimization of weapon acquisition planning. The Committee commends the Secretary of the Army's attention and action on the report's findings and has provided resources for select mitigation activities that can be conducted in the near-term. The Committee directs the Secretary of the Army to establish and advance armament systems integration capability through existing capacity and mechanisms to advance and coordinate armament systems development and effectiveness.

TECHNOLOGY ADVANCEMENT AND RETENTION CENTER

The Committee believes that automating and optimizing ammunition propellant production processes such as those for solvent-less and spherical propellants and integrating new materials such as consumable structural materials will benefit the Army's manufacture of conventional ammunition. Further, the Committee believes that these processes and materials could play a crucial role in reducing cost, increasing ammunition performance, and enhancing soldier safety. The Committee encourages the Secretary of the Army to equip the national technical industrial base with these manufacturing processes and materials.

ARMY NET ZERO INDUSTRIAL BASE TECHNOLOGY PROGRAM

The Committee supports the research, development, and demonstration of advanced technologies to increase the Army's ability to address its Net Zero Energy, Water, and Solid Waste Policy and enhance the sustainable operation of its industrial munitions base.

ENVIRONMENTAL CONTROL UNITS

The Committee recognizes that a significant amount of fuel used at forward operating bases is consumed by environmental control units that keep servicemembers and major electronic systems cool in austere environments. The Committee encourages the Secretary of the Army to consider determining the potential efficiency that could be created through the use of enclosure-sized environmental control units and systems. An evaluation between distributed cooling and legacy approaches to compare the size, weight, power, purchase, and overall operational costs would provide the Army with information that could yield fuel and operational cost savings, as well as more efficient ways to cool servicemembers and electronics.

ADVANCED LIGHTWEIGHT MULTIFUNCTIONAL TRANSPARENT ARMOR

The Committee encourages the Secretary of the Army to consider the development of advanced lightweight multifunctional transparent armor material for facial shields, goggles, spectacles, and other solider protection gear.

MULTI-ROLE ARMAMENT SYSTEMS

The Committee notes that the Army's combat vehicle modernization strategy has identified requirements for greater lethality for existing combat vehicles, in developing new platforms, and in maintaining technical superiority. The Army's modification of combat vehicles over the years has resulted in additional protection at the expense of mobility, and lagging increases in lethality. The Committee urges the Secretary of the Army to develop new armament systems for both current and future combat vehicles that will provide lethality overmatch as well as the ability to defeat multiple target sets, active protection systems, and lethal and non-lethal capability within the same weapon system.

ACCESS TO CONTESTED AREAS

The Committee notes that many potential adversaries have established anti-access and area denial measures. To facilitate access to contested areas, the Committee encourages the Secretary of the Army to focus on developing capabilities that can be airdropped into contested areas, operated in GPS-denied environments, and that can survive an initial fight until heavier reinforcements become available. The Committee encourages the Secretary of the Army to consider the development of lighter platforms that have the lethality of the Abrams tank but can be airdropped, as well as armed robotic platforms that are deployable with manned platforms.

SUBTERRANEAN AND DENSE URBAN COMPLEX ENVIRONMENT

The Army Research Development Engineering Center (ARDEC) is the lead for dense urban warfare materiel solutions and has the responsibility to coordinate and demonstrate materiel solutions that are responsive to warfighting challenges that impede operations. The Committee understands that numerous challenges exist that impede operations and encourages the Director of the ARDEC to adapt existing technologies to subterranean hard target defeat needs, to support experimentation of technologies to disable and neutralize underground facilities and their associated components, and to demonstrate new emerging technologies to enable delivery of effects in dense urban environments.

ADVANCED ENERGETICS

The Committee urges the Secretary of the Army to demonstrate, through application of novel manufacturing pilot processes, next generation insensitive energetic materials enabling increased gun-launched munition performance to achieve longer ranges and increased terminal effects against a spectrum of threats.

DIRECTED ENERGY ARMAMENT SYSTEMS

The Committee understands that the Air Force and the Navy are currently investing in high energy laser directed energy programs. Accordingly, the Army should also consider investing in directed energy capabilities for both combat vehicles and dismounted soldiers. Existing Army work in this area is targeted at high power systems on large ground platforms that lack mobility and may not be available as an organic asset to companies and below, to include dismounted soldiers. The Committee encourages the Secretary of the Army to invest in reducing the size, weight, power, and cost for these directed energy systems and to focus on integrating them into existing or future combat and tactical vehicles, as well as individual soldier weapon systems.

IMPROVED TURBINE ENGINE PROGRAM

The Committee commends the Army for moving forward with the research and development phase of the Improved Turbine Engine program and encourages the Secretary of the Army to examine options to accelerate the development and fielding of this critical aviation modernization program.

ACTIVE RESPONSE TO UNDERBODY EXPLOSIONS

The Committee is aware of the development of technology to detect and autonomously respond to vehicle underbody explosive incidents with an active real-time response to counter vehicle flight, and to reduce the physical effects on vehicle occupants through a cooperative research and development agreement between industry and the Army. The Committee directs the Secretary of the Army to continue testing this technology, including with the use of explosive testing, through available funds, and to submit a report to the congressional defense committees not later than March 31, 2017 on the progress and results of these tests.

BALLISTIC RESISTANT ADAPTIVE SEATING SYSTEM

The Committee understands that helicopter pilots and aircrew members have reported back pain and increased fatigue while flying, which reduces their effectiveness and affects safety. Additionally, with more military specialties open to females, a number of pilots are flying in seats that do not fit their physical geometry. Therefore, the Committee recommendation provides $7,000,000 above the request for the Ballistic Resistant Adaptive Seating System program in order to accelerate prototype fabrication and destructive testing of adaptive seats.

TECHNOLOGIES TO DELAY RIPENING

The Committee is aware of the development of entirely natural food applications that can be kept at room temperature, thereby negating the need for refrigeration. This technology can help extend the ripening process and shelf-life of combat rations for servicemembers, thereby controlling cost and improving quality. The Committee encourages the Secretary of the Army to continue to invest in this technology.

MATERIALS AND METALS PROCESSING SCIENCE AND ENGINEERING

The Committee supports continued expansion of the Army Research Laboratory's (ARL) efforts in research, education, and technology development in materials and metals processing science and engineering. These investments have the potential to accelerate transformation of the affordability, performance, and environmental sustainability of strategic materials vital to national security. The Committee values ARL's recent expansion of its open campus concept to materials and manufacturing science laboratories and encourages such collaborations with the academic community and industry.

LIGHTWEIGHT COMBAT VEHICLE COMPONENTS

The Committee acknowledges that incorporating alternative materials into combat vehicle components may offer an opportunity to significantly reduce the weight of the vehicle, thereby extending the service life of the vehicle. The Committee encourages the Commanding General of the United States Army Tank Automotive Research, Development and Engineering Center to continue to test, develop, and field components that can reduce vehicle weight, reduce fuel consumption, increase payload capacity, and extend service life.

SILICON CARBIDE POWER ELECTRONICS

The Committee supports the Army's investment to advance power and energy technology to meet requirements for higher electric power loads at forward operating bases through efficient generators, to extend silent watch capabilities for ground vehicles, and to improve vehicle performance. Silicon carbide power modules may be an enabling technology that meets Army requirements for power distribution and management for generator and battery systems. The Committee urges the Secretary of the Army to support demonstration and deployment of silicon carbide power electronics.

PROTECTED SATELLITE COMMUNICATIONS CAPABILITY

The Committee understands that the Army is pursuing a protected satellite communications (SATCOM) capability and that an interim software-only solution could be implemented with wideband global SATCOM system certification within two years. The Committee is concerned the fiscal year 2017 budget request may not be sufficient to maintain the current program execution plan over the future years defense program. Lack of sufficient funding could derail required hardware and software efforts and hinder near-term progress on an anti-jam solution. Therefore, the Committee directs the Secretary of the Army to submit a report to the congressional defense committees not later than 60 days after the enactment of this Act on the technical and budgetary feasibility for continuing this effort, including an assessment of the capability in enterprise and tactical communications networks. Furthermore, the Secretary is urged to consider prioritizing funding for these capabilities in future budgets.

ADVANCED MULTI-PURPOSE VEHICLE

The Committee recognizes the priority that the Army is placing on the Advanced Multi-Purpose Vehicle (AMPV) program and fully supports the fiscal year 2017 budget request of $184,200,000 to move forward with prototype testing. Given the importance of the AMPV program, the total estimated program cost of $10,200,000,000, and the Army's troubled acquisition record in new start modernization programs, the Committee directs the Secretary of the Army to submit a report to the congressional defense committees not later than 90 days after the enactment of this Act, and quarterly thereafter, with updates on cost and schedule metrics and the vehicle's performance in meeting established performance requirements.

SCIENCE AND TECHNOLOGY REINVENTION LABORATORIES

The Committee acknowledges the unique, valuable contributions of the Department of Defense Science and Technology Reinvention Laboratories (STRL) to the national technology base. As such, the Committee believes that each STRL must be able to accept and execute funding from other STRLs, Department of Defense organizations, government agencies, industry, and academia.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, NAVY

Fiscal year 2016 appropriation	$18,117,677,000
Fiscal year 2017 budget request	17,276,301,000
Committee recommendation	16,831,290,000
Change from budget request	−445,011,000

The Committee recommends an appropriation of $16,831,290,000 for Research, Development, Test and Evaluation, Navy which will provide the following program in fiscal year 2017:

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY			
	BASIC RESEARCH			
1	UNIVERSITY RESEARCH INITIATIVES	101,714	101,714	---
2	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	18,508	18,508	---
3	DEFENSE RESEARCH SCIENCES	422,748	422,748	---
	TOTAL, BASIC RESEARCH	542,970	542,970	---
	APPLIED RESEARCH			
4	POWER PROJECTION APPLIED RESEARCH	41,371	41,371	---
5	FORCE PROTECTION APPLIED RESEARCH	158,745	166,745	+8,000
6	MARINE CORPS LANDING FORCE TECHNOLOGY	51,590	49,765	-1,825
7	COMMON PICTURE APPLIED RESEARCH	41,185	41,185	---
8	WARFIGHTER SUSTAINMENT APPLIED RESEARCH	45,467	45,467	---
9	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	118,941	119,441	+500
10	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	42,618	81,618	+39,000
11	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,327	6,327	---
12	UNDERSEA WARFARE APPLIED RESEARCH	126,313	126,313	---
13	FUTURE NAVAL CAPABILITIES APPLIED RESEARCH	165,103	157,103	-8,000
14	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	33,916	33,916	---
15	SCIENCE AND TECHNOLOGY MANAGEMENT - ONR HEADQUARTERS	29,575	29,575	---
	TOTAL, APPLIED RESEARCH	861,151	898,826	+37,675

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	ADVANCED TECHNOLOGY DEVELOPMENT			
16	POWER PROJECTION ADVANCED TECHNOLOGY	96,406	76,606	-19,800
17	FORCE PROTECTION ADVANCED TECHNOLOGY	48,438	45,338	-3,100
18	ELECTROMAGNETIC SYSTEMS ADVANCED TECHNOLOGY	26,421	26,421	---
19	MARINE CORPS ADVANCED TECHNOLOGY DEMONSTRATION (ATD)	140,416	140,416	---
20	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT	13,117	13,117	---
21	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEV	249,092	252,092	+3,000
22	MANUFACTURING TECHNOLOGY PROGRAM	56,712	56,712	---
23	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	4,789	40,789	+36,000
24	UNDERSEA WARFARE ADVANCED TECHNOLOGY	25,880	25,880	---
25	NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	60,550	59,550	-1,000
26	MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY	15,167	11,167	-4,000
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	736,988	748,088	+11,100
	DEMONSTRATION & VALIDATION			
27	AIR/OCEAN TACTICAL APPLICATIONS	48,536	42,718	-5,818
28	AVIATION SURVIVABILITY	5,239	5,239	---
30	AIRCRAFT SYSTEMS	1,519	1,519	---
31	ASW SYSTEMS DEVELOPMENT	7,041	7,041	---
32	TACTICAL AIRBORNE RECONNAISSANCE	3,274	3,274	---
33	ADVANCED COMBAT SYSTEMS TECHNOLOGY	57,034	15,496	-41,538
34	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	165,775	141,569	-24,206
35	SURFACE SHIP TORPEDO DEFENSE	87,066	71,553	-15,513
36	CARRIER SYSTEMS DEVELOPMENT	7,605	7,605	---
37	PILOT FISH	132,068	132,068	---
38	RETRACT LARCH	14,546	14,546	---
39	RETRACT JUNIPER	115,435	115,435	---
40	RADIOLOGICAL CONTROL	702	702	---
41	SURFACE ASW	1,081	1,081	---
42	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	100,565	93,023	-7,542
43	SUBMARINE TACTICAL WARFARE SYSTEMS	8,782	8,782	---
44	SHIP CONCEPT ADVANCED DESIGN	14,590	12,090	-2,500
45	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	15,805	9,636	-6,169
46	ADVANCED NUCLEAR POWER SYSTEMS	453,313	453,313	---
47	ADVANCED SURFACE MACHINERY SYSTEMS	36,655	26,858	-9,797

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
48	CHALK EAGLE	367,016	367,016	---
49	LITTORAL COMBAT SHIP (LCS)	51,630	61,630	+10,000
50	COMBAT SYSTEM INTEGRATION	23,530	23,530	---
51	OHIO REPLACEMENT PROGRAM	700,811	700,811	---
52	LITTORAL COMBAT SHIP (LCS) MISSION MODULES	160,058	151,608	-8,450
53	AUTOMATED TEST AND RE-TEST	---	15,000	+15,000
54	FRIGATE DEVELOPMENT	84,900	81,900	-3,000
55	CONVENTIONAL MUNITIONS	8,342	8,342	---
56	MARINE CORPS ASSAULT VEHICLES	158,682	138,762	-19,920
57	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	1,303	1,303	---
58	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	46,911	40,131	-6,780
59	COOPERATIVE ENGAGEMENT	---	---	---
60	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	4,556	4,556	---
61	ENVIRONMENTAL PROTECTION	20,343	19,121	-1,222
62	NAVY ENERGY PROGRAM	52,479	50,468	-2,011
63	FACILITIES IMPROVEMENT	5,458	5,458	---
64	CHALK CORAL	245,860	245,860	---
65	NAVY LOGISTIC PRODUCTIVITY	3,089	3,089	---
66	RETRACT MAPLE	323,526	314,776	-8,750
67	LINK PLUMERIA	318,497	318,497	---
68	RETRACT ELM	52,834	52,834	---
69	LINK EVERGREEN	48,116	48,116	---
70	SPECIAL PROCESSES	13,619	13,619	---
71	NATO RESEARCH AND DEVELOPMENT	9,867	8,567	-1,300
72	LAND ATTACK TECHNOLOGY	6,015	6,015	---
73	JOINT NONLETHAL WEAPONS TESTING	27,904	27,904	---
74	JOINT PRECISION APPROACH AND LANDING SYSTEMS	104,144	102,722	-1,422
75	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS	32,700	32,700	---
76	GERALD R. FORD CLASS NUCLEAR AIRCRAFT CARRIER	70,528	58,744	-11,784
77	REMOTE MINEHUNTING SYSTEM (RMS)	3,001	3,001	---
78	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES	34,920	26,920	-8,000
80	MH-XX	1,620	1,620	---
81	LX (R)	6,354	6,354	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
82	ADVANCED UNDERSEA PROTOTYPING	78,589	18,589	-60,000
84	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM	9,910	9,910	---
85	SPACE & ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINE	23,971	16,401	-7,570
86	OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT	252,409	240,305	-12,104
87	JOINT LIGHT TACTICAL VEHICLE ENGINEERING/MANUFACTURING	23,197	9,397	-13,800
88	ASW SYSTEMS DEVELOPMENT - MIP	9,110	9,110	---
89	ELECTRONIC WARFARE DEVELOPMENT - MIP	437	437	---
	TOTAL, DEMONSTRATION & VALIDATION	4,662,867	4,408,671	-254,196
	ENGINEERING & MANUFACTURING DEVELOPMENT			
90	TRAINING SYSTEM AIRCRAFT	19,938	17,938	-2,000
91	OTHER HELO DEVELOPMENT	6,268	5,968	-300
92	AV-8B AIRCRAFT - ENG DEV	33,664	32,664	-1,000
93	STANDARDS DEVELOPMENT	1,300	1,300	---
94	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	5,275	5,275	---
95	AIR/OCEAN EQUIPMENT ENGINEERING	3,875	3,875	---
96	P-3 MODERNIZATION PROGRAM	1,909	1,909	---
97	WARFARE SUPPORT SYSTEM	13,237	11,537	-1,700
98	TACTICAL COMMAND SYSTEM	36,323	36,323	---
99	ADVANCED HAWKEYE	363,792	311,947	-51,845
100	H-1 UPGRADES	27,441	27,441	---
101	ACOUSTIC SEARCH SENSORS	34,525	29,525	-5,000
102	V-22A	174,423	156,197	-18,226
103	AIR CREW SYSTEMS DEVELOPMENT	13,577	13,577	---
104	EA-18	116,761	89,718	-27,043
105	ELECTRONIC WARFARE DEVELOPMENT	48,766	39,378	-9,388
106	EXECUTIVE HELO DEVELOPMENT	338,357	338,357	---
107	NEXT GENERATION JAMMER (NGJ)	577,822	545,822	-32,000
108	JOINT TACTICAL RADIO SYSTEM - NAVY (JTRS-NAVY)	2,365	2,365	---
109	NEXT GENERATION JAMMER (NGJ) INCREMENT II	52,065	42,065	-10,000
110	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	282,764	275,764	-7,000
111	LPD-17 CLASS SYSTEMS INTEGRATION	580	580	---
112	SMALL DIAMETER BOMB (SDB)	97,622	91,622	-6,000
113	STANDARD MISSILE IMPROVEMENTS	120,561	105,561	-15,000
114	AIRBORNE MCM	45,622	35,494	-10,128

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
116	NAVAL INTEGRATED FIRE CONTROL-COUNTER AIR SYSTEMS ENG...	25,750	25,750	---
118	ADVANCED ABOVE WATER SENSORS.....	85,868	64,243	-21,625
119	SSN-688 AND TRIDENT MODERNIZATION.....	117,476	116,476	-1,000
120	AIR CONTROL.....	47,404	44,858	-2,546
121	SHIPBOARD AVIATION SYSTEMS.....	112,158	103,158	-9,000
122	COMBAT INFORMATION CENTER CONVERSION.....	6,283	6,283	---
123	AIR AND MISSILE DEFENSE RADAR (AMDR) SYSTEM.....	144,395	144,395	---
124	NEW DESIGN SSN.....	113,013	123,013	+10,000
125	SUBMARINE TACTICAL WARFARE SYSTEM.....	43,160	52,160	+9,000
126	SHIP CONTRACT DESIGN/LIVE FIRE T&E.....	65,002	55,752	-9,250
127	NAVY TACTICAL COMPUTER RESOURCES.....	3,098	3,098	---
128	VIRGINIA PAYLOAD MODULE (VPM).....	97,920	97,920	---
129	MINE DEVELOPMENT.....	10,490	10,490	---
130	LIGHTWEIGHT TORPEDO DEVELOPMENT.....	20,178	30,178	+10,000
131	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT.....	7,369	7,369	---
132	PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS.....	4,995	4,995	---
133	JOINT STANDOFF WEAPON SYSTEMS.....	412	412	---
134	SHIP SELF DEFENSE (DETECT & CONTROL).....	134,619	134,619	---
135	SHIP SELF DEFENSE (ENGAGE: HARD KILL).....	114,475	103,875	-10,600
136	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW).....	114,211	108,889	-5,322
137	INTELLIGENCE ENGINEERING.....	11,029	6,029	-5,000
138	MEDICAL DEVELOPMENT.....	9,220	25,220	+16,000
139	NAVIGATION/ID SYSTEM.....	42,723	36,723	-6,000
140	JOINT STRIKE FIGHTER (JSF) - EMD.....	531,426	531,426	---
141	JOINT STRIKE FIGHTER (JSF).....	528,716	528,716	---
142	JSF FOLLOW ON DEVELOPMENT-MARINE CORPS.....	74,227	71,977	-2,250
143	JSF FOLLOW ON DEVELOPMENT-NAVY.....	63,387	61,137	-2,250
144	INFORMATION TECHNOLOGY DEVELOPMENT.....	4,856	4,856	---
145	INFORMATION TECHNOLOGY DEVELOPMENT.....	97,066	85,396	-11,670
146	ANTI-TAMPER TECHNOLOGY SUPPORT.....	2,500	---	-2,500
147	CH-53K.....	404,810	373,297	-31,513
148	MISSION PLANNING.....	33,570	33,570	---
149	COMMON AVIONICS.....	51,599	41,678	-9,921

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
150	SHIP TO SHORE CONNECTOR (SSC)	11,088	11,088	---
151	T-AO (X)	1,095	1,095	---
152	CARRIER BASED AERIAL REFUELING SYSTEM (CBARS)	89,000	76,422	-12,578
153	JOINT AIR-TO-GROUND MISSILE (JAGM)	17,880	17,880	---
154	MULTI-MISSION MARITIME AIRCRAFT (MMA)	59,126	59,201	+75
155	MULTI-MISSION MARITIME AIRCRAFT (MMA) INCREMENT 3	182,220	152,220	-30,000
156	DDG-1000	45,642	45,642	---
159	TACTICAL COMMAND SYSTEM - MIP	676	676	---
160	TACTICAL CRYPTOLOGIC SYSTEMS	36,747	34,047	-2,700
161	SPECIAL APPLICATIONS PROGRAM	35,002	35,002	---
162	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	4,942	2,442	-2,500
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	6,025,655	5,695,875	-329,780
	RDT&E MANAGEMENT SUPPORT			
163	THREAT SIMULATOR DEVELOPMENT	16,633	16,633	---
164	TARGET SYSTEMS DEVELOPMENT	36,662	36,662	---
165	MAJOR T&E INVESTMENT	42,109	52,109	+10,000
166	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION	2,998	2,998	---
167	STUDIES AND ANALYSIS SUPPORT - NAVY	3,931	3,931	---
168	CENTER FOR NAVAL ANALYSES	46,634	46,634	---
169	NEXT GENERATION FIGHTER	1,200	1,200	---
171	TECHNICAL INFORMATION SERVICES	903	903	---
172	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	87,077	100,077	+13,000
173	STRATEGIC TECHNICAL SUPPORT	3,597	3,597	---
174	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	62,811	62,811	---
175	RDT&E SHIP AND AIRCRAFT SUPPORT	106,093	106,093	---
176	TEST AND EVALUATION SUPPORT	349,146	349,146	---
177	OPERATIONAL TEST AND EVALUATION CAPABILITY	18,160	18,160	---
178	NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT	9,658	9,658	---
179	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	6,500	6,500	---
180	MARINE CORPS PROGRAM WIDE SUPPORT	22,247	19,766	-2,481
181	MANAGEMENT HEADQUARTERS - R&D	16,254	16,254	---
182	WARFARE INNOVATION MANAGEMENT	21,123	15,423	-5,700
	TOTAL, RDT&E MANAGEMENT SUPPORT	853,736	868,555	+14,819

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	OPERATIONAL SYSTEMS DEVELOPMENT			
188	COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	84,501	77,001	-7,500
189	DEPLOYABLE JOINT COMMAND AND CONTROL	2,970	2,970	---
190	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	136,556	131,056	-5,500
191	SSBN SECURITY TECHNOLOGY PROGRAM	33,845	33,845	---
192	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	9,329	9,329	---
193	NAVY STRATEGIC COMMUNICATIONS	17,218	17,218	---
195	F/A-18 SQUADRONS	189,125	148,151	-40,974
196	FLEET TELECOMMUNICATIONS (TACTICAL)	48,225	48,225	---
197	SURFACE SUPPORT	21,156	21,156	---
198	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC)	71,355	58,016	-13,339
199	INTEGRATED SURVEILLANCE SYSTEM	58,542	44,042	-14,500
200	AMPHIBIOUS TACTICAL SUPPORT UNITS	13,929	13,929	---
201	GROUND/AIR TASK ORIENTED RADAR	83,538	78,538	-5,000
202	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	38,593	36,343	-2,250
203	CRYPTOLOGIC DIRECT SUPPORT	1,122	1,122	---
204	ELECTRONIC WARFARE (EW) READINESS SUPPORT	99,998	83,292	-16,706
205	HARM IMPROVEMENT	48,635	43,835	-4,800
206	TACTICAL DATA LINKS	124,785	124,785	---
207	SURFACE ASW COMBAT SYSTEM INTEGRATION	24,583	24,583	---
208	MK-48 ADCAP	39,134	49,134	+10,000
209	AVIATION IMPROVEMENTS	120,861	112,382	-8,479
210	OPERATIONAL NUCLEAR POWER SYSTEMS	101,786	101,786	---
211	MARINE CORPS COMMUNICATIONS SYSTEMS	82,159	80,399	-1,760
212	COMMON AVIATION COMMAND AND CONTROL SYSTEM	11,850	8,976	-2,874
213	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	47,877	47,877	---
214	MARINE CORPS COMBAT SERVICES SUPPORT	13,194	11,700	-1,494
215	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS (MIP)	17,171	17,171	---
216	AMPHIBIOUS ASSAULT VEHICLE	38,020	38,020	---
217	TACTICAL AIM MISSILES	56,285	56,285	---
218	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	40,350	40,350	---
219	GLOBAL COMBAT SUPPORT SYSTEM - MARINE CORPS (GCSS-MC)	9,128	9,128	---
223	SATELLITE COMMUNICATIONS (SPACE)	37,372	32,116	-5,256

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
224	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES	23,541	23,541	---
225	INFORMATION SYSTEMS SECURITY PROGRAM	38,510	33,310	-5,200
228	JOINT MILITARY INTELLIGENCE PROGRAMS	6,019	6,019	---
229	TACTICAL UNMANNED AERIAL VEHICLES	8,436	8,436	---
230	UAS INTEGRATION AND INTEROPERABILITY	36,509	33,509	-3,000
231	DISTRIBUTED COMMON GROUND SYSTEMS/SURFACE SYSTEMS	2,100	2,100	---
232	DISTRIBUTED COMMON GROUND SYSTEMS/SURFACE SYSTEMS	44,571	44,571	---
233	MQ-4C TRITON	111,729	111,729	---
234	MQ-8 UAV	26,518	17,323	-9,195
235	RQ-11 UAV	418	---	-418
236	RQ-7 UAV	716	---	-716
237	SMALL (LEVEL 0) TACTICAL UAS (STUASLO)	5,071	5,071	---
238	RQ-21A	9,497	8,379	-1,118
239	MULTI-INTELLIGENCE SENSOR DEVELOPMENT	77,965	57,965	-20,000
240	UNMANNED AERIAL SYSTEMS (UAS) PAYLOADS (MIP)	11,181	11,181	---
241	RQ-4 MODERNIZATION	181,266	178,716	-2,550
242	MODELING AND SIMULATION SUPPORT	4,709	4,709	---
243	DEPOT MAINTENANCE (NON-IF)	49,322	49,322	---
245	MARITIME TECHNOLOGY (MARITECH)	3,204	3,204	---
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	2,364,474	2,201,845	-162,629
9999	CLASSIFIED PROGRAMS	1,228,460	1,466,460	+238,000
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY	17,276,301	16,831,290	-445,011

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[In thousands of dollars]

R-1	Budget Request	Committee Recommended	Change from Request
5 FORCE PROTECTION APPLIED RESEARCH	**158,745**	**166,745**	**8,000**
Program increase		5,000	
Program increase - battery storage and safety		3,000	
6 MARINE CORPS LANDING FORCE TECHNOLOGY	**51,590**	**49,765**	**-1,825**
Littoral combat/power projection unjustified growth		-1,825	
9 ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	**118,941**	**119,441**	**500**
Electronic warfare technology previously funded efforts		-2,000	
NEMESIS innovative naval prototype unjustified growth		-1,500	
Program increase - conformal phased array antenna research		4,000	
10 OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	**42,618**	**81,618**	**39,000**
Program increase - AGOR mid-life refit		30,000	
Program increase - naval special warfare maritime science and technology		5,000	
Program increase - space-based monitoring in the arctic basin		4,000	
13 FUTURE NAVAL CAPABILITIES APPLIED RESEARCH	**165,103**	**157,103**	**-8,000**
FORCENET excess growth		-5,000	
Power and energy previously funded efforts		-2,000	
Sea shield previously funded efforts		-1,000	
16 POWER PROJECTION ADVANCED TECHNOLOGY	**96,406**	**76,606**	**-19,800**
Precision strike technology excess growth		-19,800	
17 FORCE PROTECTION ADVANCED TECHNOLOGY	**48,438**	**45,338**	**-3,100**
Aircraft technology excess growth		-3,100	
21 FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEV	**249,092**	**252,092**	**3,000**
Power and energy previously funded efforts		-2,000	
Sea shield previously funded efforts		-2,000	
Program increase - ASW research		7,000	
23 WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	**4,789**	**40,789**	**36,000**
Program increase - bone marrow registry program		31,500	
Tactical athlete program - transfer from OM,DW		4,500	
25 NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	**60,550**	**59,550**	**-1,000**
Operations analysis unjustified growth		-1,000	
26 MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY	**15,167**	**11,167**	**-4,000**
Mine technology excess growth		-4,000	
27 AIR/OCEAN TACTICAL APPLICATIONS	**48,536**	**42,718**	**-5,818**
Naval integrated tactical environmental system next generation excess growth		-3,000	
Precise timing and astrometry contract delays		-2,818	

R-1	Budget Request	Committee Recommended	Change from Request
33 ADVANCED COMBAT SYSTEMS TECHNOLOGY	57,034	15,496	-41,538
Rapid prototype development excess growth		-30,267	
Unmanned rapid prototype development excess growth		-11,271	
34 SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	165,775	141,569	-24,206
USV with AQS-20 product development excess growth		-5,750	
USV with AQS-20 support excess growth		-1,177	
LDUUV product development excess growth		-15,279	
LDUUV support excess growth		-2,000	
35 SURFACE SHIP TORPEDO DEFENSE	87,066	71,553	-15,513
Long lead material early to need		-15,513	
42 ADVANCED SUBMARINE SYSTEM DEVELOPMENT	100,565	93,023	-7,542
Flank array demonstration unjustified growth		-450	
Stealth product development excess growth		-2,500	
Universal launch and recovery module excess growth		-4,592	
44 SHIP CONCEPT ADVANCED DESIGN	14,590	12,090	-2,500
Cybersecurity technologies prior year carryover		-2,500	
45 SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	15,805	9,636	-6,169
Shipboard energy conservation excess growth		-6,169	
47 ADVANCED SURFACE MACHINERY SYSTEMS	36,655	26,858	-9,797
Energy efficiency previously funded efforts		-1,797	
Cybersecurity boundary defense capability excess growth		-8,000	
49 LITTORAL COMBAT SHIP (LCS)	51,630	61,630	10,000
Program increase - small business technology insertion		10,000	
52 LITTORAL COMBAT SHIP (LCS) MISSION MODULES	160,058	151,608	-8,450
System test and evaluation prior year carryover		-6,450	
Mine countermeasures mission package terminated program		-2,000	
53 AUTOMATED TEST AND RE-TEST	0	15,000	15,000
Program increase		15,000	
54 FRIGATE DEVELOPMENT	84,900	81,900	-3,000
Support excess growth		-3,000	
56 MARINE CORPS ASSAULT VEHICLES	158,682	138,762	-19,920
Product development prior year carryover		-19,920	
58 JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	46,911	40,131	-6,780
EOD robotics increment 2 early to need		-2,000	
VSW MCM next generation UUV early to need		-4,780	
61 ENVIRONMENTAL PROTECTION	20,343	19,121	-1,222
Environmental sustainability development excess growth		-1,222	
62 NAVY ENERGY PROGRAM	52,479	50,468	-2,011
Hull hydrodynamic sub project prior year carryover		-411	
Aircraft energy conservation systems engineering prior year carryover		-1,600	

R-1	Budget Request	Committee Recommended	Change from Request
66 RETRACT MAPLE	323,526	314,776	-8,750
Program reduction		-8,750	
71 NATO RESEARCH AND DEVELOPMENT	9,867	8,567	-1,300
Cooperative research and development unjustified growth		-1,300	
74 JOINT PRECISION APPROACH AND LANDING SYSTEMS	104,144	102,722	-1,422
UCLASS test support unjustified request		-1,422	
76 GERALD R. FORD CLASS NUCLEAR AIRCRAFT CARRIER	70,528	58,744	-11,784
EMALS unjustified growth		-11,784	
78 TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES	34,920	26,920	-8,000
CIRCM schedule delays		-8,000	
82 ADVANCED UNDERSEA PROTOTYPING	78,589	18,589	-60,000
Excess growth		-60,000	
85 SPACE & ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINEERING SUPPORT	23,971	16,401	-7,570
Systems engineering standards and processes excess growth		-4,250	
Maritime concept generation and development excess growth		-3,320	
86 OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT	252,409	240,305	-12,104
Product development prior year carryover		-10,066	
Increment II early to need		-2,038	
87 JOINT LIGHT TACTICAL VEHICLE ENGINEERING/MANUFACTURING	23,197	9,397	-13,800
Prior year carryover		-13,800	
90 TRAINING SYSTEM AIRCRAFT	19,938	17,938	-2,000
T-45 schedule delays		-2,000	
91 OTHER HELO DEVELOPMENT	6,268	5,968	-300
H-53 avionics previously funded		-300	
92 AV-8B AIRCRAFT - ENG DEV	33,664	32,664	-1,000
Support carryover		-1,000	
97 WARFARE SUPPORT SYSTEM	13,237	11,537	-1,700
Navy irregular warfare excess growth		-1,700	
99 ADVANCED HAWKEYE	363,792	311,947	-51,845
Mode 5/S previously funded		-225	
New start efforts excess growth		-8,389	
ALQ-217 upgrade - defer new start effort		-27,799	
Frequency remapping - defer new start effort		-15,432	
101 ACOUSTIC SEARCH SENSORS	34,525	29,525	-5,000
Multi-static active coherent schedule delays		-5,000	

R-1	Budget Request	Committee Recommended	Change from Request
102 V-22A	**174,423**	**156,197**	**-18,226**
Refueling system development excess growth		-9,752	
Hardware development airframe excess growth		-8,474	
104 EA-18	**116,761**	**89,718**	**-27,043**
Design and avionics integration excess growth		-15,212	
Developmental and operational testing excess growth		-2,317	
Flight plan excess growth		-9,514	
105 ELECTRONIC WARFARE DEVELOPMENT	**48,766**	**39,378**	**-9,388**
Jammer techniques optimization cost growth		-3,000	
Technology development unjustified new start		-2,016	
Intrepid Tiger II excess growth		-4,372	
107 NEXT GENERATION JAMMER (NGJ)	**577,822**	**545,822**	**-32,000**
Hardware development contract award delay		-32,000	
109 NEXT GENERATION JAMMER (NGJ) INCREMENT II	**52,065**	**42,065**	**-10,000**
Program growth		-10,000	
SURFACE COMBATANT COMBAT SYSTEM			
110 ENGINEERING	**282,764**	**275,764**	**-7,000**
AEGIS baseline 5.3X upgrade excess growth		-10,000	
Program increase - small business technology insertion		3,000	
112 SMALL DIAMETER BOMB (SDB)	**97,622**	**91,622**	**-6,000**
F-18 integration test asset cost growth		-6,000	
113 STANDARD MISSILE IMPROVEMENTS	**120,561**	**105,561**	**-15,000**
SM-6 prior year carryover		-15,000	
114 AIRBORNE MCM	**45,622**	**35,494**	**-10,128**
ALMDS excess growth		-5,200	
Medal, tactics and training organic force excess growth		-4,928	
118 ADVANCED ABOVE WATER SENSORS	**85,868**	**64,243**	**-21,625**
Advanced radar technology systems engineering prior year carryover		-15,300	
Advanced radar technology support carryover		-6,325	
119 SSN-688 AND TRIDENT MODERNIZATION	**117,476**	**116,476**	**-1,000**
Towed buoy antenna previously funded efforts		-1,000	
120 AIR CONTROL	**47,404**	**44,858**	**-2,546**
AN/SPN-50 cost growth		-2,546	
121 SHIPBOARD AVIATION SYSTEMS	**112,158**	**103,158**	**-9,000**
CVN launch and recover schedule delays		-9,000	
124 NEW DESIGN SSN	**113,013**	**123,013**	**10,000**
Program increase - small business technology insertion		10,000	
125 SUBMARINE TACTICAL WARFARE SYSTEM	**43,160**	**52,160**	**9,000**
Program increase - advanced weapons enhanced by submarine unmanned aerial system against mobile targets		9,000	

R-1	Budget Request	Committee Recommended	Change from Request
126 SHIP CONTRACT DESIGN/LIVE FIRE T&E	**65,002**	**55,752**	**-9,250**
LHA flight 0 design and total ship integration previously funded efforts		-2,000	
CVN 80 total ship integration excess growth		-7,250	
130 LIGHTWEIGHT TORPEDO DEVELOPMENT	**20,178**	**30,178**	**10,000**
Program increase - small business technology insertion		10,000	
135 SHIP SELF DEFENSE (ENGAGE: HARD KILL)	**114,475**	**103,875**	**-10,600**
Evolved seasparrow testing prior year carryover		-1,500	
Block II excess growth		-14,100	
Program increase - electronics enclosure redesign efforts		5,000	
136 SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	**114,211**	**108,889**	**-5,322**
EW RCIP unjustified growth		-2,322	
Decoy development effort unjustified growth		-3,000	
137 INTELLIGENCE ENGINEERING	**11,029**	**6,029**	**-5,000**
Excess growth		-5,000	
138 MEDICAL DEVELOPMENT	**9,220**	**25,220**	**16,000**
Program increase - military dental research		6,000	
Program increase - wound care research		10,000	
139 NAVIGATION/ID SYSTEM	**42,723**	**36,723**	**-6,000**
ISIS and photonics common software and hardware capabilities prior year carryover		-3,000	
NAVSTAR GPS equipment excess support growth		-3,000	
142 JSF FOLLOW ON DEVELOPMENT-MARINE CORPS	**74,227**	**71,977**	**-2,250**
Follow-on development excess funds		-2,250	
143 JSF FOLLOW ON DEVELOPMENT-NAVY	**63,387**	**61,137**	**-2,250**
Follow-on development excess funds		-2,250	
145 INFORMATION TECHNOLOGY DEVELOPMENT	**97,066**	**85,396**	**-11,670**
Excess support growth		-1,800	
NAVSEA IT excess growth		-4,470	
BUPERS IT excess growth		-5,400	
146 ANTI-TAMPER TECHNOLOGY SUPPORT	**2,500**	**0**	**-2,500**
Unjustified request		-2,500	
147 CH-53K	**404,810**	**373,297**	**-31,513**
Program delay		-31,513	
149 COMMON AVIONICS	**51,599**	**41,678**	**-9,921**
CNS/ATM prior year carryover		-2,087	
TAWS II schedule slip		-7,834	
152 CARRIER BASED AERIAL REFUELING SYSTEM (CBARS)	**89,000**	**76,422**	**-12,578**
Air segment product development early to need		-12,578	
154 MULTI-MISSION MARITIME AIRCRAFT (MMA)	**59,126**	**59,201**	**75**
Program execution		-9,925	
Program increase - small business technology insertion		10,000	

R-1	Budget Request	Committee Recommended	Change from Request
MULTI-MISSION MARITIME AIRCRAFT (MMA)			
155 INCREMENT 3	182,220	152,220	-30,000
Program execution		-30,000	
160 TACTICAL CRYPTOLOGIC SYSTEMS	36,747	34,047	-2,700
Excess support growth		-2,700	
162 CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	4,942	2,442	-2,500
Excess growth		-2,500	
165 MAJOR T&E INVESTMENT	42,109	52,109	10,000
Program increase - modeling and simulation for ground testing capabilities		10,000	
MANAGEMENT, TECHNICAL & INTERNATIONAL			
172 SUPPORT	87,077	100,077	13,000
Program increase - printed circuit board executive agent		13,000	
180 MARINE CORPS PROGRAM WIDE SUPPORT	22,247	19,766	-2,481
Studies and analysis excess growth		-2,481	
182 WARFARE INNOVATION MANAGEMENT	21,123	15,423	-5,700
Fleet experimentation excess growth		-5,700	
188 COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	84,501	77,001	-7,500
Program delays		-7,500	
190 STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	136,556	131,056	-5,500
Technical applications programs contract delays		-5,500	
195 F/A-18 SQUADRONS	189,125	148,151	-40,974
Multi-system integration excess growth		-4,000	
Radar upgrade product development previously funded		-5,000	
Infrared search and track excess growth		-31,974	
TOMAHAWK AND TOMAHAWK MISSION PLANNING			
198 CENTER (TMPC)	71,355	58,016	-13,339
Theater mission planning center previously funded		-4,000	
Enhanced tactical tomahawk seeker test and evaluation early to need		-3,000	
Support prior year carryover		-6,339	
199 INTEGRATED SURVEILLANCE SYSTEM	58,542	44,042	-14,500
TASW prototypes excess growth		-14,500	
201 GROUND/AIR TASK ORIENTED RADAR	83,538	78,538	-5,000
EDM-1 refurbishment previously funded		-5,000	
202 CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	38,593	36,343	-2,250
TACTS/LATR replacement contract delay		-2,250	
204 ELECTRONIC WARFARE (EW) READINESS SUPPORT	99,998	83,292	-16,706
Electronic warfare/information operations countermeasure capability research and development prior year carryover		-3,206	
Twisted web excess growth		-9,300	
Mocking jay excess growth		-4,200	

R-1	Budget Request	Committee Recommended	Change from Request
205 HARM IMPROVEMENT	**48,635**	**43,835**	**-4,800**
AARGM threat data library unjustified growth		-1,800	
AARGM ER development growth		-3,000	
208 MK-48 ADCAP	**39,134**	**49,134**	**10,000**
Program increase		10,000	
209 AVIATION IMPROVEMENTS	**120,861**	**112,382**	**-8,479**
F135 engine unjustified growth		-8,479	
211 MARINE CORPS COMMUNICATIONS SYSTEMS	**82,159**	**80,399**	**-1,760**
CREW product development prior year carryover		-1,760	
212 COMMON AVIATION COMMAND AND CONTROL SYSTEM	**11,850**	**8,976**	**-2,874**
Product development excess growth		-2,874	
214 MARINE CORPS COMBAT SERVICES SUPPORT	**13,194**	**11,700**	**-1,494**
Advanced power sources contract delay		-1,494	
223 SATELLITE COMMUNICATIONS (SPACE)	**37,372**	**32,116**	**-5,256**
Joint aerial layer network maritime unjustified growth		-2,000	
MUOS contract delay		-3,256	
225 INFORMATION SYSTEMS SECURITY PROGRAM	**38,510**	**33,310**	**-5,200**
Excess growth		-5,200	
230 UAS INTEGRATION AND INTEROPERABILITY	**36,509**	**33,509**	**-3,000**
Prior year carryover		-3,000	
234 MQ-8 UAV	**26,518**	**17,323**	**-9,195**
Testing delays		-9,195	
235 RQ-11 UAV	**418**	**0**	**-418**
Fully developed program		-418	
236 RQ-7 UAV	**716**	**0**	**-716**
Fully developed program		-716	
238 RQ-21A	**9,497**	**8,379**	**-1,118**
Inconsistent budget justification		-1,118	
239 MULTI-INTELLIGENCE SENSOR DEVELOPMENT	**77,965**	**57,965**	**-20,000**
Excess growth		-20,000	
241 RQ-4 MODERNIZATION	**181,266**	**178,716**	**-2,550**
Test and evaluation excess growth		-2,550	
999 CLASSIFIED PROGRAMS	**1,228,460**	**1,466,460**	**238,000**
Classified adjustment		238,000	

CONDITION-BASED MAINTENANCE FOR NAVY SHIPS

The Committee is encouraged that the Navy continues to develop and implement condition-based maintenance solutions that will likely provide demonstrable improvements in fleet readiness. The Committee encourages the Secretary of the Navy to learn from and adapt the successes of the Littoral Combat Ship condition-based maintenance efforts to other classes of ships with aging weapons systems, such as the Aegis class cruisers and destroyers.

NAVY UNMANNED AERIAL VEHICLE DEVELOPMENT

The Committee understands that the Navy is continuing to restructure and refine its requirements for unmanned aerial vehicles that can be launched and recovered aboard aircraft carriers and are mission survivable in anti-access, area-denied environments. The Committee encourages the Secretary of the Navy to examine and invest in already proven technologies that can host a variety of payloads, including communications, electronic attack, and strike capability.

MARINE CORPS PERFORMANCE AND RESILIENCY PROGRAM

The Committee is aware of the Marine Corps Performance and Resiliency program and encourages the Secretary of the Navy to continue to invest in integrated research in injury rehabilitation, nutrition, and neurocognition to improve recovery outcomes. The Committee believes that particular attention should be given to the readiness of combat support Marines and that there should be a plan to transition lessons learned from the Performance and Resiliency program to the Director of the Defense Health Agency for Department-wide application of prevention management, performance, and rehabilitation strategies.

COASTAL ENVIRONMENTAL RESEARCH

The Committee understands the importance of the littoral region to Navy operations worldwide. The Committee believes that additional research of the magnetic and electric field characteristics in coastal ocean regions and the development of predictive techniques to distinguish ships and submarines from naturally occurring background features would be beneficial for littoral operations. The Committee encourages the Secretary of the Navy to conduct additional research in this critical area.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, AIR FORCE

Fiscal year 2016 appropriation	$25,217,148,000
Fiscal year 2017 budget request	28,112,251,000
Committee recommendation	27,106,851,000
Change from budget request	−1,005,400,000

The Committee recommends an appropriation of $27,106,851,000 for Research, Development, Test and Evaluation, Air Force which will provide the following program in fiscal year 2017:

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	RESEARCH, DEVELOPMENT, TEST & EVAL, AIR FORCE			
	BASIC RESEARCH			
1	DEFENSE RESEARCH SCIENCES	340,812	340,812	---
2	UNIVERSITY RESEARCH INITIATIVES	145,044	150,044	+5,000
3	HIGH ENERGY LASER RESEARCH INITIATIVES	14,168	14,168	---
	TOTAL, BASIC RESEARCH	500,024	505,024	+5,000
	APPLIED RESEARCH			
4	MATERIALS	126,152	139,152	+13,000
5	AEROSPACE VEHICLE TECHNOLOGIES	122,831	132,831	+10,000
6	HUMAN EFFECTIVENESS APPLIED RESEARCH	111,647	111,647	---
7	AEROSPACE PROPULSION	185,671	190,671	+5,000
8	AEROSPACE SENSORS	155,174	159,174	+4,000
9	SPACE TECHNOLOGY	117,915	117,915	---
10	CONVENTIONAL MUNITIONS	109,649	109,649	---
11	DIRECTED ENERGY TECHNOLOGY	127,163	127,163	---
12	DOMINANT INFORMATION SCIENCES AND METHODS	161,650	161,650	---
13	HIGH ENERGY LASER RESEARCH	42,300	42,300	---
	TOTAL, APPLIED RESEARCH	1,260,152	1,292,152	+32,000
	ADVANCED TECHNOLOGY DEVELOPMENT			
14	ADVANCED MATERIALS FOR WEAPON SYSTEMS	35,137	35,137	---
15	SUSTAINMENT SCIENCE AND TECHNOLOGY (S&T)	20,636	20,636	---
16	ADVANCED AEROSPACE SENSORS	40,945	40,945	---
17	AEROSPACE TECHNOLOGY DEV/DEMO	130,950	130,950	---
18	AEROSPACE PROPULSION AND POWER TECHNOLOGY	94,594	94,594	---
19	ELECTRONIC COMBAT TECHNOLOGY	58,250	58,250	---
20	ADVANCED SPACECRAFT TECHNOLOGY	61,593	61,593	---
21	MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	11,681	11,681	---
22	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOPMENT	26,492	26,492	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
23	CONVENTIONAL WEAPONS TECHNOLOGY	102,009	107,009	+5,000
24	ADVANCED WEAPONS TECHNOLOGY	39,064	39,064	---
25	MANUFACTURING TECHNOLOGY PROGRAM	46,344	56,344	+10,000
26	BATTLESPACE KNOWLEDGE DEVELOPMENT & DEMONSTRATION	58,110	58,110	---
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	725,805	740,805	+15,000
	ADVANCED COMPONENT DEVELOPMENT			
27	INTELLIGENCE ADVANCED DEVELOPMENT	5,598	5,598	---
28	SPACE CONTROL TECHNOLOGY	7,534	7,534	---
29	COMBAT IDENTIFICATION TECHNOLOGY	24,418	24,418	---
30	NATO RESEARCH AND DEVELOPMENT	4,333	4,333	---
32	SPACE PROTECTION PROGRAM (SPP)	32,399	32,399	---
33	INTERCONTINENTAL BALLISTIC MISSILE	108,663	103,663	-5,000
35	LONG RANGE STRIKE	1,358,309	1,358,309	---
36	ADVANCED TECHNOLOGY AND SENSORS	34,818	34,818	---
37	TECHNOLOGY TRANSFER	3,368	3,368	---
38	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM	74,308	54,708	-19,600
39	WEATHER SATELLITE FOLLOW-ON	118,953	88,953	-30,000
40	SPACE SITUATION AWARENESS SYSTEMS	9,901	9,901	---
41	DEPLOYMENT AND DISTRIBUTION ENTERPRISE R&D	25,890	25,890	---
42	OPERATIONALLY RESPONSIVE SPACE	7,921	7,921	---
43	TECH TRANSITION PROGRAM	347,304	347,304	---
44	GROUND BASED STRATEGIC DETERRENT	113,919	113,919	---
46	NEXT GENERATION AIR DOMINANCE	20,595	20,595	---
47	THREE DIMENSIONAL LONG-RANGE RADAR	49,491	49,491	---
48	NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT)	278,147	278,147	---
49	COMMON DATA LINK EXECUTIVE AGENT (CDL EA)	42,338	42,338	---
50	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	158,002	158,002	---
51	ENABLED CYBER ACTIVITIES	15,842	15,842	---
52	CONTRACTING INFORMATION TECHNOLOGY SYSTEM	5,782	5,782	---
	TOTAL, ADVANCED COMPONENT DEVELOPMENT	2,847,833	2,793,233	-54,600

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	ENGINEERING & MANUFACTURING DEVELOPMENT			
54	ELECTRONIC WARFARE DEVELOPMENT	12,476	9,176	-3,300
55	TACTICAL DATA NETWORKS ENTERPRISE	82,380	82,380	---
56	PHYSICAL SECURITY EQUIPMENT	8,458	8,458	---
57	SMALL DIAMETER BOMB (SDB)	54,838	47,038	-7,800
58	COUNTERSPACE SYSTEMS	34,394	34,394	---
59	SPACE SITUATION AWARENESS SYSTEMS	23,945	23,945	---
60	SPACE FENCE	168,364	168,364	---
61	AIRBORNE ELECTRONIC ATTACK	9,187	9,187	---
62	SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	181,966	161,966	-20,000
63	ARMAMENT/ORDNANCE DEVELOPMENT	20,312	20,312	---
64	SUBMUNITIONS	2,503	2,503	---
65	AGILE COMBAT SUPPORT	53,680	38,680	-15,000
66	JOINT DIRECT ATTACK MUNITION	9,901	9,901	---
67	LIFE SUPPORT SYSTEMS	7,520	7,520	---
68	COMBAT TRAINING RANGES	77,409	77,409	---
69	F-35 - EMD	450,467	450,467	---
70	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)	296,572	296,572	---
71	LONG RANGE STANDOFF WEAPON	95,604	95,604	---
72	ICBM FUZE MODERNIZATION	189,751	189,751	---
73	JOINT TACTICAL NETWORK CENTER (JTNC)	1,131	1,131	---
74	F-22 MODERNIZATION INCREMENT 3.2B	70,290	70,290	---
75	GROUND ATTACK WEAPONS FUZE DEVELOPMENT	937	937	---
76	NEXT GENERATION AERIAL REFUELING AIRCRAFT KC-46	261,724	229,924	-31,800

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
77	ADVANCED PILOT TRAINING	12,377	7,377	-5,000
78	CSAR HH-60 RECAPITALIZATION	319,331	304,331	-15,000
80	ADVANCED EHF MILSATCOM (SPACE)	259,131	229,131	-30,000
81	POLAR MILSATCOM (SPACE)	50,815	45,815	-5,000
82	WIDEBAND GLOBAL SATCOM (SPACE)	41,632	49,632	+8,000
83	AIR AND SPACE OPS CENTER 10.2	28,911	28,911	---
84	B-2 DEFENSIVE MANAGEMENT SYSTEM	315,615	289,015	-26,600
85	NUCLEAR WEAPONS MODERNIZATION	137,909	124,409	-13,500
86	F-15 EPAWSS	256,669	244,669	-12,000
87	FULL COMBAT MISSION TRAINING	12,051	12,051	---
88	COMBAT SURVIVOR EVADER LOCATOR	29,253	19,253	-10,000
89	NEXTGEN JSTARS	128,019	128,019	---
90	PRESIDENTIAL AIRCRAFT REPLACEMENT	351,220	351,220	---
91	AUTOMATED TEST SYSTEMS	19,062	14,562	-4,500
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	4,075,804	3,884,304	-191,500

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	RDT&E MANAGEMENT SUPPORT			
92	THREAT SIMULATOR DEVELOPMENT	21,630	21,630	---
93	MAJOR T&E INVESTMENT	66,385	66,385	---
94	RAND PROJECT AIR FORCE	34,641	34,641	---
96	INITIAL OPERATIONAL TEST & EVALUATION	11,529	11,529	---
97	TEST AND EVALUATION SUPPORT	661,417	667,417	+6,000
98	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	11,198	11,198	---
99	SPACE TEST PROGRAM (STP)	27,070	27,070	---
100	FACILITIES RESTORATION & MODERNIZATION - TEST & EVAL	134,111	134,111	---
101	FACILITIES SUSTAINMENT - TEST AND EVALUATION SUPPORT	28,091	28,091	---
102	REQUIREMENTS ANALYSIS AND MATURATION	29,100	29,100	---
103	SPACE TEST AND TRAINING RANGE DEVELOPMENT	18,528	18,528	---
104	SPACE AND MISSILE CENTER (SMC) CIVILIAN WORKFORCE	176,666	180,666	+4,000
105	ENTERPRISE INFORMATION SERVICES (EIS)	4,410	4,410	---
106	ACQUISITION AND MANAGEMENT SUPPORT	14,613	14,613	---
107	GENERAL SKILL TRAINING	1,404	1,404	---
109	INTERNATIONAL ACTIVITIES	4,784	4,784	---
	TOTAL, RDT&E MANAGEMENT SUPPORT	1,245,577	1,255,577	+10,000

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	OPERATIONAL SYSTEMS DEVELOPMENT			
110	GPS III - OPERATIONAL CONTROL SEGMENT	393,268	393,268	---
111	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	15,427	15,427	---
112	WIDE AREA SURVEILLANCE	46,695	46,695	---
115	AIR FORCE INTEGRATED MILITARY HUMAN RESOURCES SYSTEM	10,368	10,368	---
116	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	31,952	31,952	---
117	FOREIGN MATERIEL ACQUISITION AND EXPLOITATION	42,960	42,960	---
118	HC/MC-130 RECAP RDT&E	13,987	13,987	---
119	B-52 SQUADRONS	78,267	78,267	---
120	AIR-LAUNCHED CRUISE MISSILE (ALCM)	453	453	---
121	B-1B SQUADRONS	5,830	3,930	-1,900
122	B-2 SQUADRONS	152,458	122,458	-30,000
123	MINUTEMAN SQUADRONS	182,958	178,958	-4,000
124	STRAT WAR PLANNING SYSTEM - USSTRATCOM	39,148	39,148	---
125	NIGHT FIST - USSTRATCOM	---	---	---
126	WORLDWIDE JOINT STRATEGIC COMMUNICATIONS	6,042	6,042	---
128	UH-1N REPLACEMENT PROGRAM	14,116	14,116	---
129	REGION/SECTOR OPERATION CONTROL CENTER MODERNIZATION	10,868	10,868	---
130	SERVICE SUPPORT TO STRATCOM - SPACE ACTIVITIES	8,674	8,674	---
131	MQ-9 UAV	151,373	141,973	-9,400
133	A-10 SQUADRONS	14,853	14,853	---
134	F-16 SQUADRONS	132,795	132,795	---
135	F-15E SQUADRONS	356,717	356,717	---
136	MANNED DESTRUCTIVE SUPPRESSION	14,773	14,773	---
137	F-22 SQUADRONS	387,564	379,464	-8,100
138	F-35 SQUADRONS	153,045	147,545	-5,500
139	TACTICAL AIM MISSILES	52,898	52,898	---
140	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	62,470	62,470	---
143	COMBAT RESCUE - PARARESCUE	362	362	---
144	AF TENCAP	28,413	28,413	---
145	PRECISION ATTACK SYSTEMS PROCUREMENT	649	649	---
146	COMPASS CALL	13,723	13,723	---
147	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	109,859	109,859	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
148	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	30,002	21,902	-8,100
149	AIR AND SPACE OPERATIONS CENTER (AOC)	37,621	25,321	-12,300
150	CONTROL AND REPORTING CENTER (CRC)	13,292	13,292	---
151	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	86,644	86,644	---
152	TACTICAL AIRBORNE CONTROL SYSTEMS	2,442	2,442	---
154	COMBAT AIR INTELLIGENCE SYSTEM ACTIVITIES	10,911	15,911	+5,000
155	TACTICAL AIR CONTROL PARTY--MOD	11,843	11,843	---
156	C2ISR TACTICAL DATA LINK	1,515	1,515	---
157	DCAPES	14,979	14,979	---
158	SEEK EAGLE	25,308	25,308	---
159	USAF MODELING AND SIMULATION	16,666	16,666	---
160	WARGAMING AND SIMULATION CENTERS	4,245	4,245	---
161	DISTRIBUTED TRAINING AND EXERCISES	3,886	3,886	---
162	MISSION PLANNING SYSTEMS	71,785	71,785	---
164	AF OFFENSIVE CYBERSPACE OPERATIONS	25,025	25,025	---
165	AF DEFENSIVE CYBERSPACE OPERATIONS	29,439	29,439	---
168	GLOBAL SENSOR INTEGRATED ON NETWORK (GSIN)	3,470	3,470	---
169	NUCLEAR PLANNING AND EXECUTION SYSTEM (NPES)	4,060	4,060	---
175	SPACE SUPERIORITY INTELLIGENCE	13,880	12,380	-1,500
176	E-4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	30,948	26,048	-4,900
177	FAMILY OF ADVANCED BLoS TERMINALS (FAB-T)	42,378	42,378	---
178	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	47,471	40,171	-7,300
179	INFORMATION SYSTEMS SECURITY PROGRAM	46,388	46,388	---
180	GLOBAL COMBAT SUPPORT SYSTEM	52	52	---
181	GLOBAL FORCE MANAGEMENT - DATA INITIATIVE	2,099	2,099	---
184	AIRBORNE SIGINT ENTERPRISE	90,762	90,762	---
187	GLOBAL AIR TRAFFIC MANAGEMENT (GATM)	4,354	4,354	---
188	SATELLITE CONTROL NETWORK (SPACE)	15,624	14,624	-1,000
189	WEATHER SERVICE	19,974	19,974	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
190	AIR TRAFFIC CONTROL, APPROACH, & LANDING SYSTEM (ATC)	9,770	9,770	---
191	AERIAL TARGETS	3,051	3,051	---
194	SECURITY AND INVESTIGATIVE ACTIVITIES	405	405	---
195	ARMS CONTROL IMPLEMENTATION	4,844	4,844	---
196	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	339	339	---
199	SPACE AND MISSILE TEST AND EVALUATION CENTER	3,989	3,989	---
200	SPACE INNOVATION, INTEGRATION AND RAPID TECHNOLOGY DEVELOPMENT	3,070	1,570	-1,500
201	INTEGRATED BROADCAST SERVICE	8,833	8,833	---
202	SPACELIFT RANGE SYSTEM (SPACE)	11,867	11,867	---
203	DRAGON U-2	37,217	37,217	---
205	AIRBORNE RECONNAISSANCE SYSTEMS	3,841	18,841	+15,000
206	MANNED RECONNAISSANCE SYSTEMS	20,975	20,975	---
207	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	18,902	18,902	---
208	RQ-4 UAV	256,307	256,307	---
209	NETWORK-CENTRIC COLLABORATIVE TARGET (TIARA)	22,610	22,610	---
211	NATO AGS	38,904	38,904	---
212	SUPPORT TO DCGS ENTERPRISE	23,084	23,084	---
213	ADVANCED EVALUATION PROGRAM	116,143	116,143	---
214	GPS III SPACE SEGMENT	141,888	141,888	---
215	INTERNATIONAL INTELLIGENCE TECHNOLOGY AND ARCHITECTURES	2,360	2,360	---
216	JSPOC MISSION SYSTEM	72,889	72,889	---
217	RAPID CYBER ACQUISITION	4,280	4,280	---
218	NCMC -TW/AA SYSTEM	4,951	4,951	---
219	NUDET DETECTION SYSTEM (SPACE)	21,093	21,093	---
220	SPACE SITUATION AWARENESS OPERATIONS	35,002	35,002	---
222	SHARED EARLY WARNING (SEW)	6,366	6,366	---
223	C-130 AIRLIFT SQUADRON	15,599	15,599	---
224	C-5 AIRLIFT SQUADRONS	66,146	66,146	---
225	C-17 AIRCRAFT	12,430	12,430	---
226	C-130J PROGRAM	16,776	16,776	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
227	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	5,166	5,166	---
228	KC-10S	---	3,500	+3,500
229	OPERATIONAL SUPPORT AIRLIFT	13,817	13,817	---
230	CV-22	16,702	16,702	---
231	SPECIAL TACTICS / COMBAT CONTROL	7,164	7,164	---
232	DEPOT MAINTENANCE (NON-IF)	1,518	1,518	---
233	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	61,676	61,676	---
238	SUPPORT SYSTEMS DEVELOPMENT	9,128	9,128	---
235	OTHER FLIGHT TRAINING	1,653	1,653	---
236	OTHER PERSONNEL ACTIVITIES	57	57	---
237	JOINT PERSONNEL RECOVERY AGENCY	3,663	3,663	---
238	CIVILIAN COMPENSATION PROGRAM	3,735	3,735	---
239	PERSONNEL ADMINISTRATION	5,157	5,157	---
240	AIR FORCE STUDIES AND ANALYSIS AGENCY	1,523	1,523	---
242	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT	10,581	10,581	---
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	4,365,499	4,293,499	-72,000
9999	CLASSIFIED PROGRAMS	13,091,557	12,342,257	-749,300
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, AIR FORCE	28,112,251	27,106,851	-1,005,400

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[In thousands of dollars]

R-1		Budget Request	Committee Recommended	Change from Request
2	UNIVERSITY RESEARCH INITIATIVES	145,044	150,044	5,000
	Program increase		5,000	
4	MATERIALS	126,152	139,152	13,000
	Program increase - electronics, optics and survivability		8,000	
	Program increase - structures, propulsion, and subsystems		5,000	
5	AEROSPACE VEHICLE TECHNOLOGIES	122,831	132,831	10,000
	Program increase		10,000	
7	AEROSPACE PROPULSION	185,671	190,671	5,000
	Program increase		5,000	
8	AEROSPACE SENSORS	155,174	159,174	4,000
	Program increase		4,000	
23	CONVENTIONAL WEAPONS TECHNOLOGY	102,009	107,009	5,000
	Program increase		5,000	
25	MANUFACTURING TECHNOLOGY PROGRAM	46,344	56,344	10,000
	Program increase		10,000	
33	ICBM DEM/VAL	108,663	103,663	-5,000
	Program growth		-5,000	
38	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM (HDBTDS)	74,308	54,708	-19,600
	Improved GPS		-19,600	
39	WEATHER SYSTEM FOLLOW-ON	118,953	88,953	-30,000
	Unjustified request		-30,000	
	Commercial weather pilot program		5,000	
	NRO weather study		-5,000	
54	ELECTRONIC WARFARE DEVELOPMENT	12,476	9,176	-3,300
	Improved GPS		-3,300	
57	SMALL DIAMETER BOMB	54,838	47,038	-7,800
	Improved GPS		-7,800	
62	SBIRS HIGH	181,966	161,966	-20,000
	Unjustified request		-20,000	
65	AGILE COMBAT SUPPORT	53,680	38,680	-15,000
	CE readiness - forward financing		-15,000	
76	KC-46	261,724	229,924	-31,800
	EMD funds excess to need (ECO)		-31,800	
77	ADVANCED PILOT TRAINING	12,377	7,377	-5,000
	EMD schedule slip		-5,000	
78	COMBAT RESCUE HELICOPTER (HH-60 RECAP)	319,331	304,331	-15,000
	Forward financing		-15,000	
80	ADVANCED EHF MILSATCOM (SPACE)	259,131	229,131	-30,000
	Unjustified request		-30,000	

R-1		Budget Request	Committee Recommended	Change from Request
81	**POLAR MILSATCOM (SPACE)** Unjustified request	50,815	45,815 -5,000	-5,000
82	**WIDEBAND GLOBAL SATCOM (SPACE)** Unjustified request COMSATCOM pilot program	41,632	49,632 -2,000 10,000	8,000
84	**B-2 DEFENSIVE MANAGEMENT SYSTEM** EMD excess funding	315,615	289,015 -26,600	-26,600
85	**NUCLEAR WEAPONS MODERNIZATION** Carryover	137,909	124,409 -13,500	-13,500
86	**F-15 EPAWSS** Excess funds	256,669	244,669 -12,000	-12,000
88	**COMBAT SURVIVOR EVADER LOCATOR** Insufficient justification	29,253	19,253 -10,000	-10,000
91	**AUTOMATED TEST SYSTEMS** Program growth	19,062	14,562 -4,500	-4,500
97	**TEST AND EVALUATION SUPPORT** Projected shortfall	661,417	667,417 6,000	6,000
104	**SPACE AND MISSILE CENTER CIVILIAN WORKFORCE** Review NATO ally launch services	176,666	180,666 4,000	4,000
121	**B-1B SQUADRONS** Improved GPS	5,830	3,930 -1,900	-1,900
122	**B-2 SQUADRONS** AEHF Strategic Comms	152,458	122,458 -30,000	-30,000
123	**MINUTEMAN SQUADRONS** ASU excess funds	182,958	178,958 -4,000	-4,000
131	**MQ-9** Program growth	151,373	141,973 -9,400	-9,400
137	**F-22 SQUADRONS** Improved GPS	387,564	379,464 -8,100	-8,100
138	**F-35 SQUADRONS** Follow-on development - excess funds	153,045	147,545 -5,500	-5,500
148	**JASSM** Improved GPS	30,002	21,902 -8,100	-8,100
149	**AIR AND SPACE OPERATIONS CENTER** Weapon system modification	37,621	25,321 -12,300	-12,300
154	**COMBAT AIR INTELLIGENCE SYSTEM** Program increase	10,911	15,911 5,000	5,000
175	**SPACE SUPERIORITY INTELLIGENCE** Insufficient justification	13,880	12,380 -1,500	-1,500
176	**E-4B NAOC** Recap - excess funds	30,948	26,048 -4,900	-4,900

R-1		Budget Request	Committee Recommended	Change from Request
178	**MEECN**	**47,471**	**40,171**	**-7,300**
	GASNT Incr 2 - excess funds		-7,300	
188	**SATELLITE CONTROL NETWORK (SPACE)**	**15,624**	**14,624**	**-1,000**
	Underexecution		-1,000	
200	**SPACE INNOVATION, INTEGRATION AND RAPID TECHNOLOGY DEVELOPMENT**	**3,070**	**1,570**	**-1,500**
	Insufficient justification		-1,500	
205	**AIRBORNE RECONNAISSANCE SYSTEMS**	**3,841**	**18,841**	**15,000**
	Wide area surveillance		15,000	
228	**KC-10**	**0**	**3,500**	**3,500**
	Continue Mode 5 program		3,500	
999	**CLASSIFIED PROGRAMS**	**13,091,557**	**12,342,257**	**-749,300**
	Classified adjustment		-749,300	

JOINT SURVEILLANCE TARGET ATTACK RADAR SYSTEM RECAPITALIZATION

The Committee is concerned by further delays in the acquisition schedule for the recapitalization of the E–8 Joint Surveillance Target Attack Radar System (JSTARS) fleet. The Committee is also concerned by direction from the Office of the Secretary of Defense that would appear to contemplate further delays to entering the engineering and manufacturing development phase of the program based on progress in radar risk reduction.

The Committee urges the Secretary of Defense and the Secretary of the Air Force to avoid any further slips to the present schedule. The Committee recommends that the Secretary of the Air Force adopt a clear size, weight, power, and cooling requirement based on data and analysis that takes into account both prior experience on past acquisition programs and the present state of technology. The Committee also recommends that the Secretary of the Air Force consider an increase in the number of developmental aircraft and utilize a contracting method that will incentivize the prime contractor to accelerate delivery of JSTARS recap aircraft and expedite the achievement of initial operating capability, which is currently projected to occur in fiscal year 2024. In order to preclude further delays to the program, the Committee recommendation includes a provision that prohibits the obligation or expenditure of JSTARS recapitalization program funds for pre-milestone B activities, including radar technology maturation and risk reduction, beyond December 31, 2017.

Finally, in order to preserve JSTARS capability for the combatant commanders during the transition to a recapitalized fleet, the Committee also recommends an increase of $19,700,000 above the budget request to complete modifications to the primary mission equipment of the existing operational E–8 JSTARS fleet. A recent report from the Air Force noted that two aircraft have not received these modifications solely due to budget restraints and that these modifications are essential to ensuring continued JSTARS mission relevance in the near term.

PRESIDENTIAL AIRCRAFT REPLACEMENT

The Committee includes $351,220,000, the same as the budget request, for the continued development of the Presidential Aircraft Replacement (PAR). The Committee directs the Secretary of the Air Force to provide a quarterly briefing on the PAR program to the congressional defense committees. The first such brief shall be provided not later than 30 days following the end of the fourth quarter of fiscal year 2016.

IMPROVED GLOBAL POSITIONING SYSTEM RECEIVERS

The fiscal year 2017 budget request includes funds to integrate improved military global positioning system (GPS) receivers with various Air Force weapon systems and munitions. The Committee acknowledges the need for this improvement but is concerned about the coherence of these multiple efforts and the Air Force's ability to properly execute the funding that has been requested. Therefore, the Committee recommends a reduction in funding for these efforts

pending further information. The Committee directs the Secretary of the Air Force to review the execution plan for improved military GPS receivers and brief the House and Senate Appropriations Committees on the results of this review not later than September 15, 2016.

SPACE BASED INFRARED SYSTEM

The Committee continues to be concerned that the Space Based Infrared System (SBIRS) program of record continues to develop new payload technology without an approved future systems architecture. Further, the Committee is troubled that the SBIRS analysis of alternatives for a future system does not benefit from clearly defined roles and responsibilities within the Overhead Persistent Infrared family of systems to determine what requirements any new system should meet. The analysis of alternatives also lacks a full review of resiliency requirements and the risks associated with transitioning to any new architecture. Therefore, the Committee directs the Secretary of the Air Force to brief the congressional defense and intelligence committees on the findings from the post analysis of alternatives actions and reduces funding for Evolved SBIRS by $20,000,000.

SATELLITE COMMUNICATIONS

The Committee is troubled that the Department of Defense does not have a unified satellite communications (SATCOM) architecture, to include the purchase of commercial services, with one organization responsible for lead planning and budgeting. Further, the Services and various components of the Office of the Secretary of Defense appear at odds with one another when planning for future space, ground, and user equipment systems. Though the Committee is encouraged by the progress made by the Principal Department of Defense Space Advisor, it appears that the Department continues to independently plan each major piece of the architecture, thereby sub-optimizing capability, performance, and affordability. The Committee encourages the Secretary of Defense to consolidate SATCOM planning and budget authority into one entity and reduces funding for Evolved Advanced Extremely High Frequency by $30,000,000.

WEATHER SATELLITE FOLLOW-ON

The Committee is concerned that the Department of Defense lacks sufficient focus and planning capability to efficiently and affordably meet weather data collection requirements. Five near-term capability gaps exist, two of which the Air Force has no approved plan for remediation. Remediation of the remaining three gaps relies upon building and launching a demonstration satellite to determine if sufficient technological maturation exists to meet collection requirements. If successful, the Air Force plans to launch a free flying interim satellite at significant cost until a long-term plan is designed. Unfortunately, there is no formal effort underway to design a baseline system, including utilizing applicable federal and international partnerships, that is capable of meeting all

weather data collection requirements. Therefore, the Committee reduces the fiscal year 2017 budget request by $30,000,000.

ANTENNA RESEARCH

The Committee is aware that the Air Force has funded research in deployable and reconfigurable multifunctional antennas. The Committee encourages the Director of the Air Force Office of Scientific Research to partner with academic institutions capable of advancing technologies with a potentially transformational impact on important applications for military use, such as expandable antennas for satellite communications and collapsible antennas that can benefit ground personnel by reducing the weight and footprint of antennas.

RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE

Fiscal year 2016 appropriation	$18,695,955,000
Fiscal year 2017 budget request	18,308,826,000
Committee recommendation	18,311,236,000
Change from budget request	+2,410,000

The Committee recommends an appropriation of $18,311,236,000 for Research, Development, Test and Evaluation, Defense-Wide which will provide the following program in fiscal year 2017:

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	RESEARCH, DEVELOPMENT, TEST & EVAL, DEFENSE-WIDE			
	BASIC RESEARCH			
1	DTRA UNIVERSITY STRATEGIC PARTNERSHIP BASIC RESEARCH	35,436	35,436	---
2	DEFENSE RESEARCH SCIENCES	362,297	362,297	---
3	BASIC RESEARCH INITIATIVES	36,654	36,654	---
4	BASIC OPERATIONAL MEDICAL RESEARCH SCIENCE	57,791	57,791	---
5	NATIONAL DEFENSE EDUCATION PROGRAM	69,345	69,345	---
6	HISTORICALLY BLACK COLLEGES & UNIV (HBCU)	23,572	35,572	+12,000
7	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	44,800	44,800	---
	TOTAL, BASIC RESEARCH	629,895	641,895	+12,000
	APPLIED RESEARCH			
8	JOINT MUNITIONS TECHNOLOGY	17,745	17,745	---
9	BIOMEDICAL TECHNOLOGY	115,213	115,213	---
10	DEFENSE TECHNOLOGY INNOVATION	30,000	---	-30,000
11	LINCOLN LABORATORY RESEARCH PROGRAM	48,269	48,269	---
12	APPLIED RESEARCH FOR ADVANCEMENT S&T PRIORITIES	42,206	42,206	---
13	INFORMATION AND COMMUNICATIONS TECHNOLOGY	353,635	353,635	---
14	BIOLOGICAL WARFARE DEFENSE	21,250	21,250	---
15	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	188,715	188,715	---
16	CYBER SECURITY RESEARCH	12,183	12,183	---
17	TACTICAL TECHNOLOGY	313,843	313,843	---
18	MATERIALS AND BIOLOGICAL TECHNOLOGY	220,456	220,456	---
19	ELECTRONICS TECHNOLOGY	221,911	221,911	---
20	WEAPONS OF MASS DESTRUCTION DEFEAT TECHNOLOGIES	154,857	154,857	---
21	SOFTWARE ENGINEERING INSTITUTE	8,420	8,420	---
22	SPECIAL OPERATIONS TECHNOLOGY DEVELOPMENT	37,820	41,220	+3,400
	TOTAL, APPLIED RESEARCH	1,786,523	1,759,923	-26,600

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	ADVANCED TECHNOLOGY DEVELOPMENT			
23	JOINT MUNITIONS ADVANCED TECH INSENSITIVE MUNITIONS AD..	23,902	23,902	---
25	COMBATING TERRORISM TECHNOLOGY SUPPORT.....	73,002	115,702	+42,700
26	FOREIGN COMPARATIVE TESTING.....	19,343	19,343	---
27	COUNTERPROLIFERATION INITIATIVES--PROLIF PREV & DEFEAT..	266,444	266,444	---
28	ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT.....	17,880	15,015	-2,865
30	WEAPONS TECHNOLOGY.....	71,843	51,152	-20,691
31	ADVANCED C4ISR.....	3,626	3,626	---
32	ADVANCED RESEARCH.....	23,433	23,433	---
33	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT.....	17,256	17,256	---
35	SPECIAL PROGRAM--MDA TECHNOLOGY.....	83,745	11,795	-71,950
36	ADVANCED AEROSPACE SYSTEMS.....	182,327	182,327	---
37	SPACE PROGRAMS AND TECHNOLOGY.....	175,240	175,240	---
38	ANALYTIC ASSESSMENTS.....	12,048	12,048	---
39	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS.....	57,020	57,020	---
41	TECHNOLOGY INNOVATION.....	39,923	19,923	-20,000
42	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - ADVANCED DEV..	127,941	129,941	+2,000
43	RETRACT LARCH.....	181,977	181,977	---
44	JOINT ELECTRONIC ADVANCED TECHNOLOGY.....	22,030	22,030	---
45	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS.....	148,184	132,184	-16,000
46	NETWORKED COMMUNICATIONS CAPABILITIES.....	9,331	9,331	---
47	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROG..	158,398	158,398	---
48	MANUFACTURING TECHNOLOGY PROGRAM.....	31,259	31,259	---
49	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT.....	49,895	57,395	+7,500
50	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS.....	11,011	11,011	---
52	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM.....	65,078	56,078	-9,000
53	MICROELECTRONIC TECHNOLOGY DEVELOPMENT AND SUPPORT.....	97,826	97,826	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
54	JOINT WARFIGHTING PROGRAM	7,848	5,348	-2,500
55	ADVANCED ELECTRONICS TECHNOLOGIES	49,807	49,807	---
56	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	155,081	155,081	---
57	NETWORK-CENTRIC WARFARE TECHNOLOGY	428,894	428,894	---
58	SENSOR TECHNOLOGY	241,288	241,288	---
59	DEFENSE RAPID INNOVATION PROGRAM	---	250,000	+250,000
60	SOFTWARE ENGINEERING INSTITUTE	14,264	14,264	---
61	QUICK REACTION SPECIAL PROJECTS	74,943	72,943	-2,000
63	ENGINEERING SCIENCE AND TECHNOLOGY	17,659	17,659	---
64	TEST & EVALUATION SCIENCE & TECHNOLOGY	87,135	87,135	---
65	OPERATIONAL ENERGY CAPABILITY IMPROVEMENT	37,329	37,329	---
66	CWMD SYSTEMS	44,836	21,236	-23,600
67	SPECIAL OPERATIONS ADVANCED TECHNOLOGY DEVELOPMENT	61,620	61,620	---
	TOTAL, ADVANCED TECHNOLOGY DEVELOPMENT	3,190,666	3,324,260	+133,594
	DEMONSTRATION & VALIDATION			
68	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT	28,498	28,498	---
69	WALKOFF	89,643	89,643	---
71	ACQUISITION ENTERPRISE DATA AND INFORMATION SERVICES	2,136	2,136	---
72	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM	52,491	52,491	---
73	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	206,834	201,834	-5,000
74	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT	862,080	917,080	+55,000
75	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	138,187	138,187	---
76	BALLISTIC MISSILE DEFENSE SENSORS	230,077	221,977	-8,100
77	BALLISTIC MISSILE DEFENSE ENABLING PROGRAMS	401,594	401,594	---
78	SPECIAL PROGRAMS - MDA	321,607	304,707	-16,900
79	AEGIS BMD	959,066	929,066	-30,000
80	SPACE SURVEILLANCE & TRACKING SYSTEM	32,129	32,129	---
81	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS	20,690	20,690	---
82	BALLISTIC MISSILE DEFENSE COMMAND AND CONTROL, BATTLE MANAGEMENT	439,617	429,378	-10,239
83	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT	47,776	47,776	---
84	BALLISTIC MISSILE DEFENSE INTERGRATION AND OPERATIONS CENTER (MDIOC)	54,750	54,750	---
85	REGARDING TRENCH	8,785	8,785	---
86	SEA BASED X-BAND RADAR (SBX)	68,787	65,787	-3,000

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
87	ISRAELI COOPERATIVE PROGRAMS	103,835	268,735	+164,900
88	BALLISTIC MISSILE DEFENSE TEST	293,441	291,441	-2,000
89	BALLISTIC MISSILE DEFENSE TARGETS	563,576	538,076	-25,500
90	HUMANITARIAN DEMINING	10,007	10,007	---
91	COALITION WARFARE	10,126	10,126	---
92	DEPARTMENT OF DEFENSE CORROSION PROGRAM	3,893	8,893	+5,000
93	TECHNOLOGY MATURATION INITIATIVES	90,266	74,392	-15,874
94	MISSILE DEFEAT PROJECT	45,000	45,000	---
95	ADVANCED INNOVATIVE TECHNOLOGIES	844,870	844,870	---
97	DOD UNMANNED AIRCRAFT SYSTEM (UAS) COMMON DEVELOPMENT	3,320	3,320	---
99	WARGAMING AND SUPPORT FOR STRATEGIC ANALYSIS (SSA)	4,000	4,000	---
102	JOINT C5 CAPABILITY DEVELOPMENT, INTEGRATION AND INTEROPERABILITY	23,642	23,642	---
104	LONG RANGE DISCRIMINATION RADAR	162,012	160,762	-1,250
105	IMPROVED HOMELAND DEFENSE INTERCEPTORS	274,148	244,148	-30,000
106	BMD TERMINAL DEFENSE SEGMENT TEST	63,444	53,123	-10,321
107	AEGIS BMD TEST	95,012	95,012	---
108	BALLISTIC MISSILE DEFENSE SENSOR TEST	83,250	83,250	---
109	LAND-BASED SM-3 (LBSM3)	43,293	43,293	---
110	AEGIS SM-3 BLOCK IIA CO-DEVELOPMENT	106,038	106,038	---
111	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT TEST	56,481	56,481	---
112	MULTI-OBJECT KILL VEHICLE	71,513	56,513	-15,000
114	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	2,636	2,636	---
115	CYBER SECURITY INITIATIVE	969	969	---
	TOTAL, DEMONSTRATION & VALIDATION	6,919,519	6,971,235	+51,716

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
	ENGINEERING & MANUFACTURING DEVELOPMENT			
116	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT	10,324	10,324	---
117	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT	181,303	181,303	---
118	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	266,231	266,231	---
120	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)	16,288	16,288	---
121	WEAPONS OF MASS DESTRUCTION DEFEAT CAPABILITIES	4,568	4,568	---
122	INFORMATION TECHNOLOGY DEVELOPMENT	11,505	11,505	---
123	HOMELAND PERSONNEL SECURITY INITIATIVE	1,658	1,658	---
124	DEFENSE EXPORTABILITY PROGRAM	2,920	2,920	---
126	DOD ENTERPRISE SYSTEMS DEVELOPMENT AND DEMONSTRATION	12,631	12,631	---
128	DEFENSE AGENCY INITIATIVES FINANCIAL SYSTEM	26,657	26,657	---
129	DEFENSE RETIRED AND ANNUITANT PAY SYSTEM (DRAS)	4,949	4,949	---
130	TRUSTED FOUNDRY	69,000	69,000	---
131	DEFENSE-WIDE ELECTRONIC PROCUREMENT CAPABILITY	9,881	9,881	---
132	GLOBAL COMBAT SUPPORT SYSTEM	7,600	7,600	---
133	DOD ENTERPRISE ENERGY INFORMATION MANAGEMENT (EEIM)	2,703	2,703	---
	TOTAL, ENGINEERING & MANUFACTURING DEVELOPMENT	628,218	628,218	---
	RDT&E MANAGEMENT SUPPORT			
134	DEFENSE READINESS REPORTING SYSTEM (DRRS)	4,678	4,678	---
135	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	4,499	4,499	---
136	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT	219,199	219,199	---
137	ASSESSMENTS AND EVALUATIONS	28,706	28,706	---
138	MISSION SUPPORT	69,244	69,244	---
139	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETC)	87,080	67,080	-20,000
140	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	23,069	23,069	---
142	JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION	32,759	32,759	---
143	CLASSIFIED PROGRAM USD(P)	---	100,000	+100,000
144	SYSTEMS ENGINEERING	32,429	32,429	---
145	STUDIES AND ANALYSIS SUPPORT	3,797	3,797	---
146	NUCLEAR MATTERS - PHYSICAL SECURITY	5,302	5,302	---
147	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	7,246	7,246	---
148	GENERAL SUPPORT TO USD (INTELLIGENCE)	1,874	1,874	---
149	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	85,754	85,754	---
158	SMALL BUSINESS INNOVATION RESEARCH/TECHNOLOGY TRANSFER	2,187	2,187	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
159	DEFENSE TECHNOLOGY ANALYSIS	22,650	22,650	---
160	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	43,834	43,834	---
161	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING & EVALUATION	22,240	22,240	---
162	DEVELOPMENT TEST AND EVALUATION	19,541	23,541	+4,000
163	MANAGEMENT HEADQUARTERS (RESEARCH & DEVELOPMENT)	4,759	4,759	---
164	MANAGEMENT HEADQUARTERS DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	4,400	4,400	---
165	BUDGET AND PROGRAM ASSESSMENTS	4,014	4,014	---
166	OPERATIONS SECURITY (OPSEC)	2,072	2,072	---
167	JOINT STAFF ANALYTICAL SUPPORT	7,464	7,464	---
170	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES	857	857	---
171	DEFENSE MILITARY DECEPTION PROGRAM OFFICE	916	916	---
172	COMBINED ADVANCED APPLICATIONS	15,336	15,336	---
173	CYBER INTELLIGENCE	18,523	7,223	-11,300
175	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION	34,384	29,984	-4,400
176	MANAGEMENT HEADQUARTERS - MDA	31,160	31,160	---
179	JOINT SERVICE PROVIDER (JSP)	827	827	---
9999	CLASSIFIED PROGRAMS	56,799	56,799	---
	TOTAL, RDT&E MANAGEMENT SUPPORT	897,599	965,899	+68,300
181	OPERATIONAL SYSTEMS DEVELOPMENT ENTERPRISE SECURITY SYSTEM (ESS)	4,241	4,241	---
182	REGIONAL INTERNATIONAL OUTREACH & PARTNERSHIP FOR PEAC	1,424	1,424	---
183	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SY	287	287	---
184	INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT SUPPORT	16,195	16,195	---
185	OPERATIONAL SYSTEMS DEVELOPMENT	4,194	4,194	---
186	GLOBAL THEATER SECURITY COOPERATION MANAGEMENT	7,861	7,861	---
187	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS D	33,361	33,361	---
189	PLANNING AND DECISION AID SYSTEM	3,038	3,038	---
190	C4I INTEROPERABILITY	57,501	57,501	---
192	JOINT/ALLIED COALITION INFORMATION SHARING	5,935	5,935	---
196	NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT	575	575	---
197	DEFENSE INFO INFRASTRUCTURE ENGINEERING & INTEGRATION	18,041	18,041	---
198	LONG HAUL COMMUNICATIONS (DCS)	13,994	13,994	---
199	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK	12,206	12,206	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
200	PUBLIC KEY INFRASTRUCTURE (PKI)	34,314	34,314	---
201	KEY MANAGEMENT INFRASTRUCTURE (KMI)	36,602	36,602	---
202	INFORMATION SYSTEMS SECURITY PROGRAM	8,876	8,876	---
203	INFORMATION SYSTEMS SECURITY PROGRAM	159,068	161,068	+2,000
204	GLOBAL COMMAND AND CONTROL SYSTEM	24,438	24,438	---
205	JOINT SPECTRUM CENTER (DEFENSE SPECTRUM ORGANIZATION)	13,197	13,197	---
207	JOINT INFORMATION ENVIRONMENT (JIE)	2,789	2,789	---
209	FEDERAL INVESTIGATIVE SERVICES INFORMATION TECHNOLOGY	75,000	75,000	---
210	TELEPORT PROGRAM	657	657	---
215	CYBER SECURITY INITIATIVE	1,553	1,553	---
220	POLICY R&D PROGRAMS	6,204	6,204	---
221	NET CENTRICITY	17,971	17,971	---
223	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	5,415	5,415	---
226	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	3,030	3,030	---
229	INSIDER THREAT	5,034	5,034	---
230	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM	2,037	2,037	---
236	INTELLIGENCE MISSION DATA (IMD)	13,800	13,800	---
238	PACIFIC DISASTER CENTERS	1,754	1,754	---
239	DEFENSE PROPERTY ACCOUNTABILITY SYSTEM	2,154	2,154	---
240	MANAGEMENT HEADQUARTERS (JCS)	826	826	---
241	MQ-9 UAV	17,804	17,804	---
244	SPECIAL OPERATIONS AVIATION SYSTEMS ADVANCED DEV	159,143	159,143	---
245	SPECIAL OPERATIONS INTELLIGENCE SYSTEMS DEVELOPMENT	7,958	7,958	---
246	SOF OPERATIONAL ENHANCEMENTS	64,895	64,895	---
247	WARRIOR SYSTEMS	44,885	50,885	+6,000
248	SPECIAL PROGRAMS	1,949	1,949	---
249	UNMANNED ISR	22,117	22,117	---

(DOLLARS IN THOUSANDS)

		BUDGET REQUEST	COMMITTEE RECOMMENDED	CHANGE FROM REQUEST
250	SOF TACTICAL VEHICLES	3,316	3,316	---
251	SOF MARITIME SYSTEMS	54,577	54,577	---
252	SOF GLOBAL VIDEO SURVEILLANCE ACTIVITIES	3,841	3,841	---
253	SOF OPERATIONAL ENHANCEMENTS INTELLIGENCE	11,834	11,834	---
	TOTAL, OPERATIONAL SYSTEMS DEVELOPMENT	985,891	993,891	+8,000
999	CLASSIFIED PROGRAMS	3,270,515	3,075,915	-194,600
	DARPA UNDISTRIBUTED REDUCTION	---	-50,000	-50,000
	TOTAL, RESEARCH, DEVELOPMENT, TEST & EVAL, DEF-WIDE	18,308,826	18,311,236	+2,410

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS
[In thousands of dollars]

R-1		Budget Request	Committee Recommended	Change from Request
6	HISTORICALLY BLACK COLLEGES & UNIVERSITIES (HBCU)	23,572	35,572	12,000
	Program increase		12,000	
10	DEFENSE TECHNOLOGY INNOVATION	30,000	0	-30,000
	Prior year carryover		-30,000	
22	SOF TECHNOLOGY DEVELOPMENT	37,820	41,220	3,400
	Program increase		3,400	
25	COMBATING TERRORISM TECHNOLOGY SUPPORT	73,002	115,702	42,700
	Program increase - Israeli Tunneling		42,700	
28	ADVANCED CONCEPTS AND PERFORMANCE	17,880	15,015	-2,865
	Test delays		-2,865	
30	WEAPONS TECHNOLOGY	71,843	51,152	-20,691
	Directed energy research unjustified growth		-20,691	
35	SPECIAL PROGRAM - MDA TECHNOLOGY	83,745	11,795	-71,950
	Program reduction		-71,950	
41	TECHNOLOGY INNOVATION	39,923	19,923	-20,000
	Classified program adjustment		-20,000	
42	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM - ADVANCED DEVELOPMENT	127,941	129,941	2,000
	Program increase		2,000	
45	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	148,184	132,184	-16,000
	Program decrease		-16,000	
49	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT	49,895	57,395	7,500
	Program increase		7,500	
52	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	65,078	56,078	-9,000
	Program decrease		-9,000	
54	JOINT WARFIGHTING PROGRAM	7,848	5,348	-2,500
	Prior year carryover		-2,500	
59	DEFENSE RAPID INNOVATION FUND	0	250,000	250,000
	Program increase		250,000	
61	QUICK REACTION SPECIAL PROJECTS	74,943	72,943	-2,000
	Program decrease		-2,000	
66	CWMD SYSTEMS	44,836	21,236	-23,600
	Program decrease		-23,600	
73	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	206,834	201,834	-5,000
	THAAD development previously funded efforts		-5,000	

R-1		Budget Request	Committee Recommended	Change from Request
74	**BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT**	**862,080**	**917,080**	**55,000**
	Systems engineering and program management software delays		-10,000	
	Program increase - ground systems communication modernization and fire control software upgrades		65,000	
76	**BALLISTIC MISSILE DEFENSE SENSORS**	**230,077**	**221,977**	**-8,100**
	LRDR program office - transfer to line 104		-8,100	
78	**SPECIAL PROGRAMS - MDA**	**321,607**	**304,707**	**-16,900**
	Program reduction		-16,900	
79	**AEGIS BMD**	**959,066**	**929,066**	**-30,000**
	Aegis BMD 6.x development excess growth		-10,000	
	SM-3 IIA development excess growth		-20,000	
82	**BALLISTIC MISSILE DEFENSE C2BMC**	**439,617**	**429,378**	**-10,239**
	Development and deployment unauthorized prior year funding		-7,239	
	Communications unjustified growth		-3,000	
86	**SEA BASED X-BAND RADAR (SBX)**	**68,787**	**65,787**	**-3,000**
	Test previously completed		-3,000	
87	**ISRAELI COOPERATIVE PROGRAMS**	**103,835**	**268,735**	**164,900**
	Israeli Upper Tier		29,100	
	Israeli Arrow program		56,500	
	Short range ballistic missile defense		79,300	
88	**BMD TESTS**	**293,441**	**291,441**	**-2,000**
	FTT-18 and FTT-15 efficiencies		-2,000	
89	**BMD TARGETS**	**563,576**	**538,076**	**-25,500**
	Unjustified program growth		-25,000	
	Test delays		-500	
92	**DEPARTMENT OF DEFENSE CORROSION PROGRAM**	**3,893**	**8,893**	**5,000**
	Program increase		5,000	
93	**TECHNOLOGY MATURATION INITIATIVES**	**90,266**	**74,392**	**-15,874**
	Directed energy prototype development unjustified growth		-3,874	
	Discrimination sensor prototype development long lead materials early to need		-12,000	
104	**LONG RANGE DISCRIMINATION RADAR**	**162,012**	**160,762**	**-1,250**
	LRDR program office - transfer from line 76		8,100	
	Unrealistic schedule		-9,350	
105	**IMPROVED HOMELAND DEFENSE INTERCEPTORS**	**274,148**	**244,148**	**-30,000**
	Schedule delay		-30,000	
106	**BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT TEST**	**63,444**	**53,123**	**-10,321**
	Test delays		-10,321	

R-1		Budget Request	Committee Recommended	Change from Request
112	**MULTI-OBJECT KILL VEHICLE**	**71,513**	**56,513**	**-15,000**
	Change to acquisition strategy		-15,000	
139	**JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETC)**	**87,080**	**67,080**	**-20,000**
	Prior year carryover and minimize growth		-20,000	
143	**CLASSIFIED PROGRAM USD(P)**	**0**	**100,000**	**100,000**
	Classified adjustment		100,000	
162	**DEVELOPMENT TEST AND EVALUATION**	**19,541**	**23,541**	**4,000**
	Program increase		4,000	
173	**CYBER INTELLIGENCE**	**18,523**	**7,223**	**-11,300**
	Program decrease		-11,300	
175	**COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION**	**34,384**	**29,984**	**-4,400**
	Program decrease		-4,400	
203	**INFORMATION SYSTEMS SECURITY PROGRAM**	**159,068**	**161,068**	**2,000**
	Sharkseer		2,000	
247	**WARRIOR SYSTEMS**	**44,885**	**50,885**	**6,000**
	Program increase		6,000	
999	**CLASSIFIED PROGRAMS**	**3,270,515**	**3,075,915**	**-194,600**
	Classified adjustment		-194,600	
	DARPA UNDISTRIBUTED REDUCTION		**-50,000**	**-50,000**
	DARPA undistributed reduction		-50,000	

MANUFACTURING INNOVATION INSTITUTE FOR HIGH TEMPERATURE SUPERCONDUCTORS

The Committee notes that high temperature superconductors offer the potential to reduce the magnetic signature of Navy warships, to accelerate the use of motors and generators for all-electric ships and aircraft, to develop minesweeping magnets, and to create magnetic energy storage systems and rail guns. The Committee urges the Secretary of Defense to consider establishing a Manufacturing Innovation Institute that focuses on high temperature superconductors.

UNITED STATES-ISRAELI ANTI-TUNNELING TECHNOLOGY

In fiscal year 2016 the United States and Israel jointly initiated the development of a system to detect tunnels built by its enemies, in an effort to prevent future terrorist incursions on the Israeli border. This new system may also have an application in curbing illegal migration on United States borders.

Of the funding provided in fiscal year 2016, Israel promised to match contributions with a combination of actual funding and in-kind contributions of up to the appropriated level of $40,000,000. For fiscal year 2017, the Israeli government has requested and the Committee recommendation provides an additional $42,700,000 to continue this effort.

The Committee understands that when practical, every effort will be made to complete portions of this research that are better accomplished in the United States by United States vendors and military research and development centers.

NATIONAL SECURITY EDUCATION PROGRAM

The Committee supports the Department of Defense and Intelligence Community's partnerships with institutions of higher education to ensure an adequate level of servicemembers maintain proficiency in critical languages. The Committee believes that these efforts should include minority serving institutions, such as Historically Black Colleges and Universities and Hispanic Serving Institutions, to ensure diversity within the Intelligence Community and to increase the number of analysts with proficiency in critical languages and cultural studies, including Russian, Chinese, Farsi, Arabic, and Turkish.

ACCESS TO TRUSTED MICROELECTRONICS

The Committee is concerned by the risk that reliance on foreign suppliers of critical information technology components and suppliers with connections to foreign governments poses. However, the Committee is aware of efforts the Department of Defense has initiated to address concerns with access to microelectronics from trusted sources. The fiscal year 2017 budget request includes funding for a multi-faceted approach designed to protect microelectronics designs and intellectual property, while at the same time enabling access to advanced technology from the commercial sector. The Committee is encouraged by the Department's engagement with industry, academia, national laboratories, and other government agencies to both implement near-term actions and develop a long-

term science and technology based approach that reduces risk of reliance on sole source foundry operations.

The Committee believes that the Department has appropriately scoped and adequately funded this effort. The consolidation of the Department of Defense Trusted Foundry contract management efforts at the Defense Microelectronics Activity effectively preserves the organization's role, while at the same time initiates development of a new trust approach to shift away from the traditional trust model. This provides a sensible and affordable investment strategy that will enable United States intelligence and weapons systems to remain secure and technologically advanced. The Committee encourages the Secretary of Defense to inform the congressional defense committees of issues with foreign suppliers of critical information technology components and progress on the implementation of the new trust approach.

HIGH ENERGY LASERS

The Committee is aware of efforts within the High Energy Laser Joint Technology Office to develop advanced, directed-energy, high energy laser weapons that have the potential to perform a wide variety of military missions. The Committee encourages the Secretary of Defense to explore further development and evaluation of this important technology.

STEM IMPROVEMENT WITHIN HISTORICALLY BLACK COLLEGES AND UNIVERSITIES AND MINORITY SERVING INSTITUTIONS

The Committee remains concerned about the long-term development of the Science, Technology, Engineering and Mathematics (STEM) workforce pipeline for underrepresented minorities. The Committee encourages the Secretary of Defense to emphasize STEM education improvement within the Historically Black Colleges and Universities and Minority Serving Institutions, Tribal and Native American Colleges, and Hispanic Colleges and Universities, and to focus on increasing the participation of minority students through engaged mentoring, enriched research experiences, and opportunities to publish, present, and network. The Committee encourages the Secretary of Defense to consider these factors when awarding competitive funding under this program to expand STEM opportunities for underrepresented minorities.

OPERATIONAL TEST AND EVALUATION, DEFENSE

Fiscal year 2016 appropriation	$188,558,000
Fiscal year 2017 budget request	178,994,000
Committee recommendation	178,994,000
Change from budget request	– – –

The Committee recommends an appropriation of $178,994,000 for Operational Test and Evaluation, Defense which will provide the following program in fiscal year 2017:

EXPLANATION OF PROJECT LEVEL ADJUSTMENTS

[In thousands of dollars]

	Budget Request	Committee Recommended	Change from Request
1 OPERATIONAL TEST AND EVALUATION	78,047	78,047	– – –
2 LIVE FIRE TESTING	48,316	48,316	– – –
3 OPERATIONAL TEST ACTIVITIES AND ANALYSIS	52,631	52,631	– – –
TOTAL, OPERATIONAL TEST & EVALUATION, DEFENSE	178,994	178,994	– – –