

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 201—Authorization of Appropriations

This section would authorize appropriations for research, development, test, and evaluation at the levels identified in section 4201 of division D of this Act.

SUBTITLE B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

Section 213—Prohibition on Availability of Funds for the Weather Common Component Program

This section would restrict funding for further development of meteorological situational awareness sensor programs for unmanned aircraft systems, and require the Secretary of the Air Force to submit a report to the congressional defense committees that describes requirements, existing technologies, current program efforts, testing and evaluation, and a fielding plan for capabilities associated with providing meteorological situational awareness to unmanned aircraft aircrews.

The committee notes that the Air Force office for Unmanned Aircraft Systems (UAS) Innovations and Integration under the Deputy Chief of Staff of the Air Force for Intelligence, Surveillance, and Reconnaissance (HAF/A2) began an initiative in 2010 to develop an UAS sensor that could provide real-time meteorological situational awareness for UAS aircrews to increase mission effectiveness and mitigate reliance upon weather forecasting capabilities in geographic regions with limited or no weather services provided for flight operations. The effort culminated in 2015 and cost the Air Force \$10.6 million. On October 30, 2015, the then-12th Air Force Commander, and now current Deputy Chief of Staff of the Air Force for Operations (HAF/A3), validated key global weather requirements for UAS operations, to include: increasing UAS situational awareness of current and predicted state of environmental phenomena to maximize mission effectiveness, efficiency, safety, resource protection, and risk management; relaying all onboard-UAS weather data and information, such as air temperature, humidity, wind speed and direction, turbulence, ice accretion, and weather radar in real-time; and increasing real-time, on-board weather collection capability to provide pilot situational awareness and support Air Force forecast processes. However, the HAF/A2 sensor remains non-deployed, despite the Air National Guard Air Force Reserve Command Test Center finding the sensor and its associated software to be potentially operationally effective and suitable in a formal report published in January 2018. More concerning to the committee is that a separate development effort is being undertaken by HAF/A3 weather officials that appears to duplicate the technology. Thus, this section would restrict further funding for additional systems until the Air Force provides a report that will allow the committee to evaluate the need for additional capability.

Section 219—National Security Science and Technology Strategy

This section would direct the Secretary of Defense to develop a National Security Science and Technology Strategy to prioritize Department of Defense science and technology efforts and investments. The Secretary of Defense would be required to submit the most recent version of the strategy to the congressional defense committees not later than February 4, 2019, and annually thereafter through December 31, 2021.

SUBTITLE C—REPORTS AND OTHER MATTERS

Section 221—Report on Survivability of Air Defense Artillery

This section would require the Secretary of the Army to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by March 1, 2019, on efforts to improve Army Air Defense Artillery (ADA) survivability and require the Army to assess measures that could better enhance ADA defenses, both active and passive.

The committee is concerned that U.S. Army Air Defense Artillery units may lack required active and passive non-kinetic capabilities and training to maximize their level of survivability against sophisticated threats. The committee recognizes that ADA is a critical and increasingly important component of Joint Integrated Air and Missile Defense. The committee also supports continued modernization and expansion of ADA capability.

1 **TITLE XLII—RESEARCH, DEVEL-**
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4 **SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUA-**
 5 **TION.**

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION
(In Thousands of Dollars)

<i>Line</i>	<i>Program Element</i>	<i>Item</i>	<i>FY 2019 Request</i>	<i>House Authorized</i>
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY				
BASIC RESEARCH				
001	0601101A	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	11,585	11,585
002	0601102A	DEFENSE RESEARCH SCIENCES	276,912	276,912
003	0601103A	UNIVERSITY RESEARCH INITIATIVES	65,283	65,283
004	0601104A	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	92,115	92,115
		SUBTOTAL BASIC RESEARCH	445,895	445,895
APPLIED RESEARCH				
005	0602105A	MATERIALS TECHNOLOGY	28,600	29,600
		<i>Conformal batteries and composite armor</i>		[1,000]
006	0602120A	SENSORS AND ELECTRONIC SURVIVABILITY	32,366	36,366
		<i>Expand Army Research lab Open Campus project</i>		[4,000]
007	0602122A	TRACTOR HIP	8,674	8,674
008	0602126A	TRACTOR JACK	400	400

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Line	Program Element	Item	FY 2019 Request	House Authorized
009	0602211A	AVIATION TECHNOLOGY	64,847	64,847
010	0602270A	ELECTRONIC WARFARE TECHNOLOGY	25,571	25,571
011	0602303A	MISSILE TECHNOLOGY	50,183	50,183
012	0602307A	ADVANCED WEAPONS TECHNOLOGY	29,502	29,502
013	0602308A	ADVANCED CONCEPTS AND SIMULATION	28,500	28,500
014	0602601A	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	70,450	70,450
015	0602618A	BALLISTICS TECHNOLOGY	75,541	75,541
016	0602622A	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	5,032	5,032
017	0602623A	JOINT SERVICE SMALL ARMS PROGRAM	12,394	12,394
018	0602624A	WEAPONS AND MUNITIONS TECHNOLOGY	40,444	50,444
		Accelerate Army railgun development and prototyping		[10,000]
019	0602705A	ELECTRONICS AND ELECTRONIC DEVICES	58,283	58,283
020	0602709A	NIGHT VISION TECHNOLOGY	29,582	29,582
021	0602712A	COUNTERMINE SYSTEMS	21,244	21,244
022	0602716A	HUMAN FACTORS ENGINEERING TECHNOLOGY	24,131	24,131
023	0602720A	ENVIRONMENTAL QUALITY TECHNOLOGY	13,242	13,242
024	0602782A	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	55,003	55,003
025	0602783A	COMPUTER AND SOFTWARE TECHNOLOGY	14,958	14,958
026	0602784A	MILITARY ENGINEERING TECHNOLOGY	78,159	78,159
027	0602785A	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	21,862	21,862
028	0602786A	WARFIGHTER TECHNOLOGY	40,566	40,566
029	0602787A	MEDICAL TECHNOLOGY	90,075	90,075
		SUBTOTAL APPLIED RESEARCH	919,609	934,609
		ADVANCED TECHNOLOGY DEVELOPMENT		
030	0603001A	WARFIGHTER ADVANCED TECHNOLOGY	39,338	39,338
031	0603002A	MEDICAL ADVANCED TECHNOLOGY	62,496	62,496
032	0603003A	AVIATION ADVANCED TECHNOLOGY	124,958	124,958
033	0603004A	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	102,686	102,686
034	0603005A	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	119,739	119,739
035	0603006A	SPACE APPLICATION ADVANCED TECHNOLOGY	13,000	13,000
036	0603007A	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	8,044	8,044
037	0603009A	TRACTOR HIKE	22,631	22,631
038	0603015A	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	25,682	25,682
040	0603125A	COMBATING TERRORISM—TECHNOLOGY DEVELOPMENT	3,762	3,762
041	0603130A	TRACTOR NAIL	4,896	4,896
042	0603131A	TRACTOR EGGS	6,041	6,041
043	0603270A	ELECTRONIC WARFARE TECHNOLOGY	31,491	31,491
044	0603313A	MISSILE AND ROCKET ADVANCED TECHNOLOGY	61,132	71,132
		Shoot-on-the-Move Technology Development for SHORAD platforms ...		[10,000]
045	0603322A	TRACTOR CAGE	16,845	16,845
046	0603461A	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM	183,322	188,322
		Enhance and accelerate Army artificial intelligence and machine learning.		[5,000]
047	0603606A	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	11,104	11,104
048	0603607A	JOINT SERVICE SMALL ARMS PROGRAM	5,885	5,885
049	0603710A	NIGHT VISION ADVANCED TECHNOLOGY	61,376	61,376
050	0603728A	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	9,136	9,136
051	0603734A	MILITARY ENGINEERING ADVANCED TECHNOLOGY	25,864	25,864
052	0603772A	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	34,883	34,883
053	0603794A	C3 ADVANCED TECHNOLOGY	52,387	52,387
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	1,026,698	1,041,698
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
054	0603305A	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	10,777	10,777
056	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	42,802	43,802
		Redignment of EDI APS Unit Set from OCO to Base		[1,000]
057	0603619A	LANDMINE WARFARE AND BARRIER—ADV DEV	45,254	45,254
058	0603627A	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	22,700	22,700
059	0603639A	TANK AND MEDIUM CALIBER AMMUNITION	41,974	55,974
		Army UFR: test and evaluation of the M999 155mm Anti-Personnel Improved Conventional Munition.		[14,000]
060	0603645A	ARMORED SYSTEM MODERNIZATION—ADV DEV	119,395	119,395
061	0603747A	SOLDIER SUPPORT AND SURVIVABILITY	8,746	8,746
062	0603766A	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM—ADV DEV	35,667	35,667
063	0603774A	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	7,350	7,350
064	0603779A	ENVIRONMENTAL QUALITY TECHNOLOGY—DEM/VAL	14,749	14,749
065	0603790A	NATO RESEARCH AND DEVELOPMENT	3,687	3,687
066	0603801A	AVIATION—ADV DEV	10,793	10,793
067	0603804A	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV	14,248	14,248
068	0603807A	MEDICAL SYSTEMS—ADV DEV	34,284	34,284
069	0603827A	SOLDIER SYSTEMS—ADVANCED DEVELOPMENT	18,044	28,044
		Advanced materials research for personal protective equipment (PPE)		[10,000]
070	0604017A	ROBOTICS DEVELOPMENT	95,660	95,660
071	0604020A	CROSS FUNCTIONAL TEAM (CFT) ADVANCED DEVELOPMENT & PROTOTYPING.	38,000	68,000

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(In Thousands of Dollars)

Line	Program Element	Item	FY 2019 Request	House Authorized
		<i>Iron Dome short range air defense experimentation</i>		[30,000]
072	0604100A	ANALYSIS OF ALTERNATIVES	9,765	9,765
073	0604113A	FUTURE TACTICAL UNMANNED AIRCRAFT SYSTEM (FTUAS)	12,393	12,393
074	0604114A	LOWER TIER AIR MISSILE DEFENSE (LTAMD) SENSOR	120,374	120,374
075	0604115A	TECHNOLOGY MATURATION INITIATIVES	95,347	95,347
076	0604117A	MANEUVER—SHORT RANGE AIR DEFENSE (M-SHORAD)	95,085	118,085
		<i>Redignment of EDI APS Unit Set from OCO to Base</i>		[23,000]
077	0604118A	TRACTOR BEAM	52,894	52,894
079	0604121A	SYNTHETIC TRAINING ENVIRONMENT REFINEMENT & PROTOTYPING.	77,939	77,939
080	0604319A	INDIRECT FIRE PROTECTION CAPABILITY INCREMENT 2—INTERCEPT (IFPC ²)	51,030	51,030
081	0305251A	CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT	65,817	65,817
082	1206120A	ASSURED POSITIONING, NAVIGATION AND TIMING (PNT)	146,300	146,300
083	1206308A	ARMY SPACE SYSTEMS INTEGRATION	38,319	38,319
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.	1,329,393	1,407,393
		SYSTEM DEVELOPMENT & DEMONSTRATION		
084	0604201A	AIRCRAFT AVIONICS	32,293	32,293
085	0604270A	ELECTRONIC WARFARE DEVELOPMENT	78,699	78,699
088	0604328A	TRACTOR CAGE	17,050	17,050
089	0604601A	INFANTRY SUPPORT WEAPONS	83,155	83,155
090	0604604A	MEDIUM TACTICAL VEHICLES	3,704	3,704
091	0604611A	JAVELIN	10,623	10,623
092	0604622A	FAMILY OF HEAVY TACTICAL VEHICLES	11,950	11,950
093	0604633A	AIR TRAFFIC CONTROL	12,347	12,347
095	0604642A	LIGHT TACTICAL WHEELED VEHICLES	8,212	8,212
096	0604645A	ARMORED SYSTEMS MODERNIZATION (ASM)—ENG DEV	393,613	393,613
097	0604710A	NIGHT VISION SYSTEMS—ENG DEV	139,614	139,614
098	0604713A	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	4,507	4,507
099	0604715A	NON-SYSTEM TRAINING DEVICES—ENG DEV	49,436	49,436
100	0604741A	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—ENG DEV.	95,172	95,172
101	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	22,628	22,628
102	0604746A	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	13,297	13,297
103	0604760A	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS)—ENG DEV	9,145	9,145
104	0604768A	BRILLIANT ANTI-ARMOR SUBUNITION (BAT)	9,894	9,894
105	0604780A	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	21,964	21,964
106	0604798A	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION	49,288	49,288
107	0604802A	WEAPONS AND MUNITIONS—ENG DEV	183,100	183,100
108	0604804A	LOGISTICS AND ENGINEER EQUIPMENT—ENG DEV	79,706	75,906
		<i>Late MSV-L contract award and concurrency</i>		[-3,800]
109	0604805A	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS—ENG DEV ...	15,970	15,970
110	0604807A	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT—ENG DEV.	44,542	44,542
111	0604808A	LANDMINE WARFARE/BARRIER—ENG DEV	50,817	50,817
112	0604818A	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE.	178,693	178,693
113	0604820A	RADAR DEVELOPMENT	39,338	39,338
114	0604822A	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	37,851	37,851
115	0604823A	FIREFINDER	45,473	45,473
116	0604827A	SOLDIER SYSTEMS—WARRIOR DEM/VAL	10,395	10,395
117	0604852A	SUITE OF SURVIVABILITY ENHANCEMENT SYSTEMS—EMD	69,204	55,804
		<i>Program reduction</i>		[-13,400]
118	0604854A	ARTILLERY SYSTEMS—EMD	1,781	1,781
119	0605013A	INFORMATION TECHNOLOGY DEVELOPMENT	113,758	113,758
120	0605018A	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPPS-A)	166,603	166,603
121	0605028A	ARMORED MULTI-PURPOSE VEHICLE (AMPV)	118,239	118,239
122	0605029A	INTEGRATED GROUND SECURITY SURVEILLANCE RESPONSE CAPABILITY (IGSSR-C).	3,211	3,211
123	0605030A	JOINT TACTICAL NETWORK CENTER (JTNC)	15,889	15,889
124	0605031A	JOINT TACTICAL NETWORK (JTN)	41,972	41,972
125	0605032A	TRACTOR TIRE	41,166	41,166
126	0605033A	GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM—EX-PEDITIONARY (GBOSS-E).	5,175	5,175
127	0605034A	TACTICAL SECURITY SYSTEM (TSS)	4,496	4,496
128	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCUM)	51,178	51,178
129	0605036A	COMBATING WEAPONS OF MASS DESTRUCTION (CWMD)	11,311	11,311
131	0605038A	NUCLEAR BIOLOGICAL CHEMICAL RECONNAISSANCE VEHICLE (NBCRV) SENSOR SUITE.	17,154	17,154
132	0605041A	DEFENSIVE CYBER TOOL DEVELOPMENT	36,626	36,626
133	0605042A	TACTICAL NETWORK RADIO SYSTEMS (LOW-TIER)	3,829	3,829
134	0605047A	CONTRACT WRITING SYSTEM	41,928	41,928
135	0605049A	MISSILE WARNING SYSTEM MODERNIZATION (MWSM)	28,276	28,276
136	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT	21,965	21,965
137	0605052A	INDIRECT FIRE PROTECTION CAPABILITY INC 2—BLOCK 1	157,710	157,710
138	0605053A	GROUND ROBOTICS	86,167	86,167

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Line	Program Element	Item	FY 2019 Request	House Authorized
139	0605054A	EMERGING TECHNOLOGY INITIATIVES	42,866	68,266
		Army UFR: program increase		[25,400]
140	0605380A	AMF JOINT TACTICAL RADIO SYSTEM (JTRS)	15,984	15,984
141	0605450A	JOINT AIR-TO-GROUND MISSILE (JAGM)	11,773	11,773
142	0605457A	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)	277,607	277,607
143	0605766A	NATIONAL CAPABILITIES INTEGRATION (MIP)	12,340	12,340
144	0605812A	JOINT LIGHT TACTICAL VEHICLE (JLTV) ENGINEERING AND MANUFACTURING DEVELOPMENT PH.	2,686	2,686
145	0605830A	AVIATION GROUND SUPPORT EQUIPMENT	2,706	2,706
147	0303032A	TROJAN—RH12	4,521	4,521
150	0304270A	ELECTRONIC WARFARE DEVELOPMENT	8,922	8,922
151	1205117A	TRACTOR BEARS	23,170	23,170
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	3,192,689	3,200,889
		RDT&E MANAGEMENT SUPPORT		
152	0604256A	THREAT SIMULATOR DEVELOPMENT	12,835	12,835
153	0604258A	TARGET SYSTEMS DEVELOPMENT	12,135	12,135
154	0604759A	MAJOR T&E INVESTMENT	82,996	82,996
155	0605103A	RAND ARROYO CENTER	19,821	19,821
156	0605301A	ARMY KWAJALEIN ATOLL	246,574	246,574
157	0605326A	CONCEPTS EXPERIMENTATION PROGRAM	30,430	30,430
159	0605601A	ARMY TEST RANGES AND FACILITIES	305,759	305,759
160	0605602A	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	62,379	62,379
161	0605604A	SURVIVABILITY/LETHALITY ANALYSIS	40,496	40,496
162	0605606A	AIRCRAFT CERTIFICATION	3,941	3,941
163	0605702A	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	9,767	9,767
164	0605706A	MATERIEL SYSTEMS ANALYSIS	21,226	21,226
165	0605709A	EXPLOITATION OF FOREIGN ITEMS	13,026	13,026
166	0605712A	SUPPORT OF OPERATIONAL TESTING	52,718	52,718
167	0605716A	ARMY EVALUATION CENTER	57,049	57,049
168	0605718A	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	2,801	2,801
169	0605801A	PROGRAMWIDE ACTIVITIES	60,942	60,942
170	0605803A	TECHNICAL INFORMATION ACTIVITIES	29,050	29,050
171	0605805A	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	42,332	42,332
172	0605857A	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	3,216	3,216
173	0605898A	ARMY DIRECT REPORT HEADQUARTERS—R&D - MHA	54,145	54,145
174	0606001A	MILITARY GROUND-BASED CREW TECHNOLOGY	4,896	4,896
175	0606002A	RONALD REAGAN BALLISTIC MISSILE DEFENSE TEST SITE	63,011	63,011
176	0606003A	COUNTERINTEL AND HUMAN INTEL MODERNIZATION	2,636	2,636
177	0606942A	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES	88,300	88,300
		SUBTOTAL RDT&E MANAGEMENT SUPPORT	1,322,481	1,322,481
		OPERATIONAL SYSTEMS DEVELOPMENT		
181	0603778A	MLRS PRODUCT IMPROVEMENT PROGRAM	8,886	8,886
182	0603813A	TRACTOR PULL	4,067	4,067
183	0605024A	ANTI-TAMPER TECHNOLOGY SUPPORT	4,254	4,254
184	0607131A	WEAPONS AND MUNITIONS PRODUCT IMPROVEMENT PROGRAMS.	16,022	16,022
185	0607133A	TRACTOR SMOKE	4,577	4,577
186	0607134A	LONG RANGE PRECISION FIRES (LRPF)	186,475	186,475
187	0607135A	APACHE PRODUCT IMPROVEMENT PROGRAM	31,049	31,049
188	0607136A	BLACKHAWK PRODUCT IMPROVEMENT PROGRAM	35,240	35,240
189	0607137A	CHINOOK PRODUCT IMPROVEMENT PROGRAM	157,822	157,822
190	0607138A	FIXED WING PRODUCT IMPROVEMENT PROGRAM	4,189	4,189
191	0607139A	IMPROVED TURBINE ENGINE PROGRAM	192,637	192,637
194	0607142A	AVIATION ROCKET SYSTEM PRODUCT IMPROVEMENT AND DEVELOPMENT.	60,860	60,860
195	0607143A	UNMANNED AIRCRAFT SYSTEM UNIVERSAL PRODUCTS	52,019	52,019
196	0607665A	FAMILY OF BIOMETRICS	2,400	2,400
197	0607865A	PATRIOT PRODUCT IMPROVEMENT	65,369	90,369
		Increase PATRIOT improvement efforts		[25,000]
198	0202429A	AEROSTAT JOINT PROJECT—COCOM EXERCISE	1	1
199	0203728A	JOINT AUTOMATED DEEP OPERATION COORDINATION SYSTEM (JADOCs).	30,954	30,954
200	0203735A	COMBAT VEHICLE IMPROVEMENT PROGRAMS	411,927	411,927
202	0203743A	155MM SELF-PROPELLED HOWITZER IMPROVEMENTS	40,676	40,676
203	0203744A	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS.	17,706	17,706
204	0203752A	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	146	146
205	0203758A	DIGITIZATION	6,316	6,316
206	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	1,643	3,643
		Redignment of EDI APS Unit Set from OCO to Base		[2,000]
207	0203802A	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	4,947	4,947
208	0203808A	TRACTOR CARD	34,050	34,050
210	0205410A	MATERIALS HANDLING EQUIPMENT	1,464	1,464
211	0205412A	ENVIRONMENTAL QUALITY TECHNOLOGY—OPERATIONAL SYSTEM DEV.	249	249

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Line	Program Element	Item	FY 2019 Request	House Authorized
212	0205456A	LOWER TIER AIR AND MISSILE DEFENSE (AMD) SYSTEM	79,283	79,283
213	0205778A	GUIDED MULTIPLE-LAUNCH ROCKET SYSTEM (GMLRS)	154,102	154,102
216	0303028A	SECURITY AND INTELLIGENCE ACTIVITIES	12,280	12,280
217	0303140A	INFORMATION SYSTEMS SECURITY PROGRAM	68,533	68,533
218	0303141A	GLOBAL COMBAT SUPPORT SYSTEM	68,619	68,619
220	0303150A	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	2,034	2,034
223	0305172A	COMBINED ADVANCED APPLICATIONS	1,500	1,500
224	0305179A	INTEGRATED BROADCAST SERVICE (IBS)	450	450
225	0305204A	TACTICAL UNMANNED AERIAL VEHICLES	6,000	6,000
226	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS	12,416	26,416
		<i>Redignment of EDI APS Unit Set from OCO to Base</i>		[14,000]
227	0305208A	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	38,667	38,667
229	0305232A	RQ-11 UAV	6,180	6,180
230	0305233A	RQ-7 UAV	12,863	12,863
231	0307665A	BIOMETRICS ENABLED INTELLIGENCE	4,310	4,310
233	0708045A	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	53,958	53,958
234	1203142A	SATCOM GROUND ENVIRONMENT (SPACE)	12,119	12,119
235	1208053A	JOINT TACTICAL GROUND SYSTEM	7,400	7,400
235A	9999999999	CLASSIFIED PROGRAMS	5,955	5,955
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT ..	1,922,614	1,963,614
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY.	10,159,379	10,316,579
		RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY		
		BASIC RESEARCH		
001	0601103N	UNIVERSITY RESEARCH INITIATIVES	119,433	129,433
		<i>Defense University Research Instrumentation Program</i>		[10,000]
002	0601152N	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,237	19,237
003	0601153N	DEFENSE RESEARCH SCIENCES	458,708	458,708
		SUBTOTAL BASIC RESEARCH	597,378	607,378
		APPLIED RESEARCH		
004	0602114N	POWER PROJECTION APPLIED RESEARCH	14,643	14,643
005	0602123N	FORCE PROTECTION APPLIED RESEARCH	124,049	124,049
006	0602131M	MARINE CORPS LANDING FORCE TECHNOLOGY	59,607	59,607
007	0602235N	COMMON PICTURE APPLIED RESEARCH	36,348	41,348
		<i>Enhance and accelerate Navy artificial intelligence research</i>		[5,000]
008	0602236N	WARFIGHTER SUSTAINMENT APPLIED RESEARCH	56,197	56,197
009	0602271N	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	83,800	83,800
010	0602435N	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	42,998	42,998
011	0602651M	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,349	6,349
012	0602747N	UNDERSEA WARFARE APPLIED RESEARCH	58,049	78,049
		<i>Academic partnerships for undersea unmanned warfare research and energy technology</i>		[20,000]
013	0602750N	FUTURE NAVAL CAPABILITIES APPLIED RESEARCH	147,771	147,771
014	0602782N	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	37,545	61,045
		<i>Program increase-one sensor plus integration</i>		[23,500]
015	0602792N	INNOVATIVE NAVAL PROTOTYPES (INP) APPLIED RESEARCH	159,697	169,697
		<i>Accelerate Navy railgun development and prototyping</i>		[10,000]
016	0602861N	SCIENCE AND TECHNOLOGY MANAGEMENT—ONR FIELD ACTIVITIES.	64,418	64,418
		SUBTOTAL APPLIED RESEARCH	891,471	949,971
		ADVANCED TECHNOLOGY DEVELOPMENT		
019	0603123N	FORCE PROTECTION ADVANCED TECHNOLOGY	2,423	2,423
021	0603640M	USMC ADVANCED TECHNOLOGY DEMONSTRATION (ATD)	150,245	150,245
022	0603651M	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT	13,313	13,313
023	0603671N	NAVY ADVANCED TECHNOLOGY DEVELOPMENT (ATD)	131,502	131,502
024	0603673N	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEVELOPMENT.	232,996	232,996
025	0603680N	MANUFACTURING TECHNOLOGY PROGRAM	58,657	58,657
030	0603801N	INNOVATIVE NAVAL PROTOTYPES (INP) ADVANCED TECHNOLOGY DEVELOPMENT.	161,859	181,859
		<i>Accelerate Navy railgun development and prototyping</i>		[20,000]
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	750,995	770,995
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
031	0603207N	AIR/OCEAN TACTICAL APPLICATIONS	29,747	29,747
032	0603216N	AVIATION SURVIVABILITY	7,050	7,050
033	0603251N	AIRCRAFT SYSTEMS	793	793
034	0603254N	ASW SYSTEMS DEVELOPMENT	7,058	12,058
		<i>Prototyping fiber deployment sonobuoy systems</i>		[5,000]
035	0603261N	TACTICAL AIRBORNE RECONNAISSANCE	3,540	3,540
036	0603382N	ADVANCED COMBAT SYSTEMS TECHNOLOGY	59,741	59,741
037	0603502N	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	62,727	62,727
038	0603506N	SURFACE SHIP TORPEDO DEFENSE	8,570	18,570

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Line	Program Element	Item	FY 2019 Request	House Authorized
		<i>Program increase</i>		[10,000]
039	0603512N	CARRIER SYSTEMS DEVELOPMENT	5,440	5,440
040	0603525N	PILOT FISH	162,222	162,222
041	0603527N	RETRACT LARCH	11,745	11,745
042	0603536N	RETRACT JUNIPER	114,265	114,265
043	0603542N	RADIOLOGICAL CONTROL	740	740
044	0603553N	SURFACE ASW	1,122	1,122
045	0603561N	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	109,086	89,086
		<i>Excessive cost growth</i>		[-7,000]
		<i>Prior year inefficiencies impact</i>		[-13,000]
046	0603562N	SUBMARINE TACTICAL WARFARE SYSTEMS	9,374	9,374
047	0603563N	SHIP CONCEPT ADVANCED DESIGN	89,419	89,419
048	0603564N	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	13,348	13,348
049	0603570N	ADVANCED NUCLEAR POWER SYSTEMS	256,137	256,137
050	0603573N	ADVANCED SURFACE MACHINERY SYSTEMS	22,109	22,109
051	0603576N	CHALK EAGLE	29,744	29,744
052	0603581N	LITTORAL COMBAT SHIP (LCS)	27,997	27,997
053	0603582N	COMBAT SYSTEM INTEGRATION	16,351	16,351
054	0603595N	OHIO REPLACEMENT	514,846	526,846
		<i>Advanced Submarines Control and Precision Propulsion Module Integration.</i>		[12,000]
055	0603596N	LCS MISSION MODULES	103,633	103,633
056	0603597N	AUTOMATED TEST AND ANALYSIS	7,931	7,931
057	0603599N	FRIGATE DEVELOPMENT	134,772	134,772
058	0603609N	CONVENTIONAL MUNITIONS	9,307	9,307
060	0603635M	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	1,828	1,828
061	0603654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	43,148	43,148
062	0603713N	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	5,915	5,915
063	0603721N	ENVIRONMENTAL PROTECTION	19,811	24,811
		<i>High-Pressure Waterjet Explosive Ordnance Disposal Technology development.</i>		[5,000]
064	0603724N	NAVY ENERGY PROGRAM	25,656	25,656
065	0603725N	FACILITIES IMPROVEMENT	5,301	5,301
066	0603734N	CHALK CORAL	267,985	267,985
067	0603739N	NAVY LOGISTIC PRODUCTIVITY	4,059	4,059
068	0603746N	RETRACT MAPLE	377,878	377,878
069	0603748N	LINK PLUMERIA	381,770	381,770
070	0603751N	RETRACT ELM	60,535	60,535
073	0603790N	NATO RESEARCH AND DEVELOPMENT	9,652	9,652
074	0603795N	LAND ATTACK TECHNOLOGY	15,529	15,529
075	0603851M	JOINT NON-LETHAL WEAPONS TESTING	27,581	32,581
		<i>Joint service adoption of non-lethal weapon technologies</i>		[5,000]
076	0603860N	JOINT PRECISION APPROACH AND LANDING SYSTEMS—DEM/VAL	101,566	101,566
077	0603925N	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS	223,344	223,344
078	0604014N	F/A -18 INFRARED SEARCH AND TRACK (IRST)	108,700	108,700
079	0604027N	DIGITAL WARFARE OFFICE	26,691	26,691
080	0604028N	SMALL AND MEDIUM UNMANNED UNDERSEA VEHICLES	16,717	16,717
081	0604029N	UNMANNED UNDERSEA VEHICLE CORE TECHNOLOGIES	30,187	30,187
082	0604030N	RAPID PROTOTYPING, EXPERIMENTATION AND DEMONSTRATION	48,796	48,796
083	0604031N	LARGE UNMANNED UNDERSEA VEHICLES	92,613	71,413
		<i>Excessive Snakehead LDUUV growth</i>		[-21,200]
084	0604112N	GERALD R. FORD CLASS NUCLEAR AIRCRAFT CARRIER (CVN 78—80)	58,121	73,121
		<i>EMALS software support activity</i>		[15,000]
086	0604126N	LITTORAL AIRBORNE MCM	17,622	17,622
087	0604127N	SURFACE MINE COUNTERMEASURES	18,154	18,154
088	0604272N	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM)	47,278	47,278
090	0604289M	NEXT GENERATION LOGISTICS	11,081	11,081
092	0604320M	RAPID TECHNOLOGY CAPABILITY PROTOTYPE	7,107	7,107
093	0604454N	LX (R)	5,549	5,549
094	0604536N	ADVANCED UNDERSEA PROTOTYPING	87,669	87,669
095	0604659N	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM	132,818	132,818
096	0604707N	SPACE AND ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINEERING SUPPORT	7,230	7,230
097	0604786N	OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT	143,062	143,062
099	0303354N	ASW SYSTEMS DEVELOPMENT—MIP	8,889	8,889
100	0304240M	ADVANCED TACTICAL UNMANNED AIRCRAFT SYSTEM	25,291	10,341
		<i>Unjustified cost growth</i>		[-14,950]
101	0304240N	ADVANCED TACTICAL UNMANNED AIRCRAFT SYSTEM	9,300	9,300
102	0304270N	ELECTRONIC WARFARE DEVELOPMENT—MIP	466	466
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	4,293,713	4,289,563
		SYSTEM DEVELOPMENT & DEMONSTRATION		
103	0603208N	TRAINING SYSTEM AIRCRAFT	12,798	13,798

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Line	Program Element	Item	FY 2019 Request	House Authorized
		<i>TH-57 follow-on training system development</i>		[1,000]
104	0604212N	OTHER HELO DEVELOPMENT	32,128	32,128
105	0604214M	AV-8B AIRCRAFT—ENG DEV	46,363	46,363
107	0604215N	STANDARDS DEVELOPMENT	3,771	3,771
108	0604216N	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	16,611	16,611
109	0604218N	AIR/OCEAN EQUIPMENT ENGINEERING	17,368	17,368
110	0604221N	P-3 MODERNIZATION PROGRAM	2,134	2,134
111	0604230N	WARFARE SUPPORT SYSTEM	9,729	9,729
112	0604231N	TACTICAL COMMAND SYSTEM	57,688	57,688
113	0604234N	ADVANCED HAWKEYE	223,565	215,565
		<i>Forward financed in the FY18 Omnibus</i>		[-10,000]
		<i>Program increase—IPF range improvement</i>		[2,000]
114	0604245M	H-1 UPGRADES	58,097	58,097
116	0604261N	ACOUSTIC SEARCH SENSORS	42,485	42,485
117	0604262N	V-22A	143,079	143,079
118	0604264N	AIR CREW SYSTEMS DEVELOPMENT	20,980	20,980
119	0604269N	EA-18	147,419	147,419
120	0604270N	ELECTRONIC WARFARE DEVELOPMENT	89,824	121,424
		<i>Navy UFR: EA-18G offensive airborne electronic attack special mis-</i> <i>sion pods.</i>		[31,600]
121	0604273M	EXECUTIVE HELO DEVELOPMENT	245,064	245,064
123	0604274N	NEXT GENERATION JAMMER (NGJ)	459,529	459,529
124	0604280N	JOINT TACTICAL RADIO SYSTEM—NAVY (JTRS-NAVY)	3,272	3,272
125	0604282N	NEXT GENERATION JAMMER (NGJ) INCREMENT II	115,253	115,253
126	0604307N	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	397,403	377,403
		<i>ACB 20 unexecutable growth</i>		[-20,000]
127	0604311N	LPD-17 CLASS SYSTEMS INTEGRATION	939	939
128	0604329N	SMALL DIAMETER BOMB (SDB)	104,448	104,448
129	0604366N	STANDARD MISSILE IMPROVEMENTS	165,881	180,881
		<i>XFU electronics unit integration</i>		[15,000]
130	0604373N	AIRBORNE MCM	10,831	10,831
131	0604378N	NAVAL INTEGRATED FIRE CONTROL—COUNTER AIR SYSTEMS ENGINEERING. <i>Excess overhead</i>	33,429	26,529
				[-6,900]
132	0604501N	ADVANCED ABOVE WATER SENSORS	35,635	35,635
133	0604503N	SSN-688 AND TRIDENT MODERNIZATION	126,932	126,932
134	0604504N	AIR CONTROL	62,448	62,448
135	0604512N	SHIPBOARD AVIATION SYSTEMS	9,710	9,710
136	0604518N	COMBAT INFORMATION CENTER CONVERSION	19,303	19,303
137	0604522N	AIR AND MISSILE DEFENSE RADAR (AMDR) SYSTEM	27,059	27,059
138	0604530N	ADVANCED ARRESTING GEAR (AAG)	184,106	184,106
139	0604558N	NEW DESIGN SSN	148,233	126,833
		<i>Excess cost growth</i>		[-21,400]
140	0604562N	SUBMARINE TACTICAL WARFARE SYSTEM	60,824	60,824
141	0604567N	SHIP CONTRACT DESIGN/ LIVE FIRE T&E	60,062	60,062
142	0604574N	NAVY TACTICAL COMPUTER RESOURCES	4,642	4,642
144	0604601N	MINE DEVELOPMENT	25,756	25,756
145	0604610N	LIGHTWEIGHT TORPEDO DEVELOPMENT	95,147	95,147
146	0604654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	7,107	7,107
147	0604703N	PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS	6,539	6,539
148	0604727N	JOINT STANDOFF WEAPON SYSTEMS	441	441
149	0604755N	SHIP SELF DEFENSE (DETECT & CONTROL)	180,391	180,391
150	0604756N	SHIP SELF DEFENSE (ENGAGE: HARD KILL)	178,538	178,538
151	0604757N	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	120,507	120,507
152	0604761N	INTELLIGENCE ENGINEERING	29,715	29,715
153	0604771N	MEDICAL DEVELOPMENT	8,095	8,095
154	0604777N	NAVIGATION/ID SYSTEM	121,026	121,026
155	0604800M	JOINT STRIKE FIGHTER (JSF)—EMD	66,566	66,566
156	0604800N	JOINT STRIKE FIGHTER (JSF)—EMD	65,494	65,494
159	0605013M	INFORMATION TECHNOLOGY DEVELOPMENT	14,005	14,005
160	0605013N	INFORMATION TECHNOLOGY DEVELOPMENT	268,567	268,567
161	0605024N	ANTI-TAMPER TECHNOLOGY SUPPORT	5,618	5,618
162	0605212M	CH-53K RDTE	326,945	326,945
164	0605215N	MISSION PLANNING	32,714	32,714
165	0605217N	COMMON AVIONICS	51,486	51,486
166	0605220N	SHIP TO SHORE CONNECTOR (SSC)	1,444	1,444
167	0605327N	T-AO 205 CLASS	1,298	1,298
168	0605414N	UNMANNED CARRIER AVIATION (UCA)	718,942	602,042
		<i>Insufficient Air Vehicle budget justification</i>		[-116,900]
169	0605450M	JOINT AIR-TO-GROUND MISSILE (JAGM)	6,759	6,759
171	0605500N	MULTI-MISSION MARITIME AIRCRAFT (MMA)	37,296	37,296
172	0605504N	MULTI-MISSION MARITIME (MMA) INCREMENT III	160,389	160,389
173	0605611M	MARINE CORPS ASSAULT VEHICLES SYSTEM DEVELOPMENT & DEMONSTRATION.	98,223	98,223
174	0605813M	JOINT LIGHT TACTICAL VEHICLE (JLTV) SYSTEM DEVELOP- MENT & DEMONSTRATION.	2,260	2,260
175	0204202N	DDG-1000	161,264	161,264
180	0304785N	TACTICAL CRYPTOLOGIC SYSTEMS	44,098	44,098

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Line	Program Element	Item	FY 2019 Request	House Authorized
182	0306250M	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	6,808	6,808
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	6,042,480	5,916,880
		MANAGEMENT SUPPORT		
183	0604256N	THREAT SIMULATOR DEVELOPMENT	94,576	94,576
184	0604258N	TARGET SYSTEMS DEVELOPMENT	10,981	10,981
185	0604759N	MAJOR T&E INVESTMENT	77,014	77,014
186	0605126N	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION ...	48	48
187	0605152N	STUDIES AND ANALYSIS SUPPORT—NAVY	3,942	3,942
188	0605154N	CENTER FOR NAVAL ANALYSES	48,797	48,797
189	0605285N	NEXT GENERATION FIGHTER	5,000	5,000
191	0605804N	TECHNICAL INFORMATION SERVICES	1,029	1,029
192	0605853N	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	87,565	87,565
193	0605856N	STRATEGIC TECHNICAL SUPPORT	4,231	4,231
194	0605861N	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	1,072	1,072
195	0605863N	RDT&E SHIP AND AIRCRAFT SUPPORT	97,471	97,471
196	0605864N	TEST AND EVALUATION SUPPORT	373,834	373,834
197	0605865N	OPERATIONAL TEST AND EVALUATION CAPABILITY	21,554	21,554
198	0605866N	NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT	16,227	16,227
200	0605873M	MARINE CORPS PROGRAM WIDE SUPPORT	24,303	24,303
201	0605898N	MANAGEMENT HQ—R&D	43,262	43,262
202	0606355N	WARFARE INNOVATION MANAGEMENT	41,918	41,918
203	0606942M	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES ...	7,000	7,000
204	0606942N	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES ...	48,800	48,800
205	0305327N	INSIDER THREAT	1,682	1,682
206	0902498N	MANAGEMENT HEADQUARTERS (DEPARTMENTAL SUPPORT ACTIVITIES).	1,579	1,579
208	1206867N	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	8,684	8,684
		SUBTOTAL MANAGEMENT SUPPORT	1,020,569	1,020,569
		OPERATIONAL SYSTEMS DEVELOPMENT		
210	0604227N	HARPOON MODIFICATIONS	5,426	5,426
211	0604840M	F-35 C2D2	259,122	259,122
212	0604840N	F-35 C2D2	252,360	252,360
213	0607658N	COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	130,515	119,315
		<i>Excess cost growth</i>		[-11,200]
214	0607700N	DEPLOYABLE JOINT COMMAND AND CONTROL	3,127	3,127
215	0101221N	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	157,679	166,679
		<i>Project 2228, technical applications, systems engineering modeling and simulation capability and tool development.</i>		[9,000]
216	0101224N	SSBN SECURITY TECHNOLOGY PROGRAM	43,198	39,198
		<i>Excess program growth</i>		[-4,000]
217	0101226N	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	11,311	11,311
218	0101402N	NAVY STRATEGIC COMMUNICATIONS	39,313	39,313
219	0204136N	F/A-18 SQUADRONS	193,086	193,086
220	0204163N	FLEET TELECOMMUNICATIONS (TACTICAL)	25,014	25,014
221	0204228N	SURFACE SUPPORT	11,661	11,661
222	0204229N	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TPMC).	282,395	282,395
223	0204311N	INTEGRATED SURVEILLANCE SYSTEM	36,959	36,959
224	0204313N	SHIP-TOWED ARRAY SURVEILLANCE SYSTEMS	15,454	15,454
225	0204413N	AMPHIBIOUS TACTICAL SUPPORT UNITS (DISPLACEMENT CRAFT).	6,073	6,073
226	0204460M	GROUND/AIR TASK ORIENTED RADAR (GLATOR)	45,029	45,029
227	0204571N	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	104,903	104,903
228	0204574N	CRYPTOLOGIC DIRECT SUPPORT	4,544	4,544
229	0204575N	ELECTRONIC WARFARE (EW) READINESS SUPPORT	66,889	66,889
230	0205601N	HARM IMPROVEMENT	120,762	120,762
231	0205604N	TACTICAL DATA LINKS	104,696	104,696
232	0205620N	SURFACE ASW COMBAT SYSTEM INTEGRATION	28,421	28,421
233	0205632N	MK-48 ADCAP	94,155	68,555
		<i>Excessive TI-1 cost growth</i>		[-25,600]
234	0205633N	AVIATION IMPROVEMENTS	121,805	136,805
		<i>Navy UFR: F/A-18E/F Super Hornet engine enhancements</i>		[15,000]
235	0205675N	OPERATIONAL NUCLEAR POWER SYSTEMS	117,028	117,028
236	0206313M	MARINE CORPS COMMUNICATIONS SYSTEMS	174,779	174,779
237	0206335M	COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S) ...	4,826	4,826
238	0206623M	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	97,152	97,152
239	0206624M	MARINE CORPS COMBAT SERVICES SUPPORT	30,156	30,156
240	0206625M	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS (MIP) ...	39,976	39,976
241	0206629M	AMPHIBIOUS ASSAULT VEHICLE	22,637	22,637
242	0207161N	TACTICAL AIM MISSILES	40,121	40,121
243	0207163N	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	32,473	32,473
249	0303138N	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES (CANES).	23,697	23,697
250	0303140N	INFORMATION SYSTEMS SECURITY PROGRAM	44,228	44,228
252	0305192N	MILITARY INTELLIGENCE PROGRAM (MIP) ACTIVITIES	6,081	6,081

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253	0305204N	TACTICAL UNMANNED AERIAL VEHICLES	8,529	8,529
254	0305205N	UAS INTEGRATION AND INTEROPERABILITY	41,212	41,212
255	0305208M	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	7,687	7,687
256	0305208N	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	42,846	42,846
257	0305220N	MQ-4C TRITON	14,395	14,395
258	0305231N	MQ-8 UAV	9,843	9,843
259	0305232M	RQ-11 UAV	524	524
260	0305234N	SMALL (LEVEL 0) TACTICAL UAS (STUASLo)	5,360	5,360
261	0305239M	RQ-21A	10,914	10,914
262	0305241N	MULTI-INTELLIGENCE SENSOR DEVELOPMENT	81,231	81,231
263	0305242M	UNMANNED AERIAL SYSTEMS (UAS) PAYLOADS (MIP)	5,956	5,956
264	0305421N	RQ-4 MODERNIZATION	219,894	219,894
265	0308601N	MODELING AND SIMULATION SUPPORT	7,097	7,097
266	0702207N	DEPOT MAINTENANCE (NON-IP)	36,560	36,560
267	0708730N	MARITIME TECHNOLOGY (MARITECH)	7,284	7,284
268	1203109N	SATELLITE COMMUNICATIONS (SPACE)	39,174	39,174
268A	999999999	CLASSIFIED PROGRAMS	1,549,503	1,549,503
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT ..	4,885,060	4,868,260
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY.	18,481,666	18,423,616
		RESEARCH, DEVELOPMENT, TEST & EVAL, AF		
		BASIC RESEARCH		
001	0601102F	DEFENSE RESEARCH SCIENCES	348,322	348,322
002	0601103F	UNIVERSITY RESEARCH INITIATIVES	154,991	154,991
003	0601108F	HIGH ENERGY LASER RESEARCH INITIATIVES	14,506	14,506
		SUBTOTAL BASIC RESEARCH	517,819	517,819
		APPLIED RESEARCH		
004	0602102F	MATERIALS	125,373	141,373
		Additional facility engineering research and development		[3,000]
		Sub-atomic particle research		[3,000]
		Thermal protecting systems for hypersonics		[10,000]
005	0602201F	AEROSPACE VEHICLE TECHNOLOGIES	130,547	140,547
		Hypersonic vehicle structures		[10,000]
006	0602202F	HUMAN EFFECTIVENESS APPLIED RESEARCH	112,518	112,518
007	0602203F	AEROSPACE PROPULSION	190,919	195,919
		Program increase		[5,000]
008	0602204F	AEROSPACE SENSORS	166,534	166,534
009	0602298F	SCIENCE AND TECHNOLOGY MANAGEMENT— MAJOR HEAD- QUARTERS ACTIVITIES.	8,288	8,288
011	0602602F	CONVENTIONAL MUNITIONS	112,841	112,841
012	0602605F	DIRECTED ENERGY TECHNOLOGY	141,898	141,898
013	0602788F	DOMINANT INFORMATION SCIENCES AND METHODS	162,420	172,420
		Enhance and accelerate Air Force artificial intelligence research		[10,000]
014	0602890F	HIGH ENERGY LASER RESEARCH	43,359	43,359
015	1206601F	SPACE TECHNOLOGY	117,645	117,645
		SUBTOTAL APPLIED RESEARCH	1,312,342	1,353,342
		ADVANCED TECHNOLOGY DEVELOPMENT		
016	0603112F	ADVANCED MATERIALS FOR WEAPON SYSTEMS	34,426	44,426
		Metals Affordability Initiative		[10,000]
017	0603199F	SUSTAINMENT SCIENCE AND TECHNOLOGY (S&T)	15,150	20,150
		Air Force artificial intelligence research and non-operational support activities.		[5,000]
018	0603203F	ADVANCED AEROSPACE SENSORS	39,968	39,968
019	0603211F	AEROSPACE TECHNOLOGY DEV/DEMO	121,002	121,002
020	0603216F	AEROSPACE PROPULSION AND POWER TECHNOLOGY	115,462	125,462
		Laser power system enhancement		[10,000]
021	0603270F	ELECTRONIC COMBAT TECHNOLOGY	55,319	55,319
022	0603401F	ADVANCED SPACECRAFT TECHNOLOGY	54,895	54,895
023	0603444F	MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	10,674	10,674
024	0603456F	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOP- MENT.	36,463	46,463
		Autonomous life support system development		[10,000]
025	0603601F	CONVENTIONAL WEAPONS TECHNOLOGY	194,981	194,981
026	0603605F	ADVANCED WEAPONS TECHNOLOGY	43,368	43,368
027	0603680F	MANUFACTURING TECHNOLOGY PROGRAM	42,025	47,025
		Academic and industrial partnerships for aerospace materials		[5,000]
028	0603788F	BATTLESPACE KNOWLEDGE DEVELOPMENT AND DEMONSTRATION. Additional facility engineering research and development	51,064	64,364
		Enhance and accelerate Air Force artificial intelligence research		[8,300]
		Enhance and accelerate Air Force artificial intelligence research		[5,000]
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT	814,797	868,097
		ADVANCED COMPONENT DEVELOPMENT & PROTO- TYPES		

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030	0603260F	INTELLIGENCE ADVANCED DEVELOPMENT	5,568	5,568
032	0603742F	COMBAT IDENTIFICATION TECHNOLOGY	18,194	18,194
033	0603790F	NATO RESEARCH AND DEVELOPMENT	2,305	2,305
035	0603851F	INTERCONTINENTAL BALLISTIC MISSILE—DEM/VAL	41,856	41,856
037	0604015F	LONG RANGE STRIKE—BOMBER	2,314,196	2,314,196
038	0604201F	INTEGRATED AVIONICS PLANNING AND DEVELOPMENT	14,894	14,894
039	0604257F	ADVANCED TECHNOLOGY AND SENSORS	34,585	34,585
040	0604288F	NATIONAL AIRBORNE OPS CENTER (NAOC) RECAP	9,740	9,740
041	0604317F	TECHNOLOGY TRANSFER	12,960	12,960
042	0604327F	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM (HDBTDS) PROGRAM	71,501	71,501
043	0604414F	CYBER RESILIENCY OF WEAPON SYSTEMS-ACS	62,618	62,618
046	0604776F	DEPLOYMENT & DISTRIBUTION ENTERPRISE R&D	28,350	28,350
048	0604858F	TECH TRANSITION PROGRAM	1,186,075	1,201,075
		Non-engine development technology		[15,000]
049	0605230F	GROUND BASED STRATEGIC DETERRENT	345,041	414,441
		Accelerated execution of program		[69,400]
050	0207110F	NEXT GENERATION AIR DOMINANCE	503,997	413,997
		Ahead of need		[-90,000]
051	0207455F	THREE DIMENSIONAL LONG-RANGE RADAR (3DELRR)	40,326	40,326
052	0208099F	UNIFIED PLATFORM (UP)	29,800	29,800
054	0305236F	COMMON DATA LINK EXECUTIVE AGENT (CDL EA)	41,880	41,880
055	0305601F	MISSION PARTNER ENVIRONMENTS	10,074	10,074
056	0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	253,825	253,825
057	0306415F	ENABLED CYBER ACTIVITIES	16,325	16,325
059	0901410F	CONTRACTING INFORMATION TECHNOLOGY SYSTEM	17,577	17,577
060	1203164F	NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT) (SPACE)	286,629	286,629
061	1203710F	EO/IR WEATHER SYSTEMS	7,940	7,940
062	1206422F	WEATHER SYSTEM FOLLOW-ON	138,052	148,052
		Commercial weather data pilot		[10,000]
063	1206425F	SPACE SITUATION AWARENESS SYSTEMS	39,338	39,338
064	1206434F	MIDTERM POLAR MILSATCOM SYSTEM	383,113	383,113
065	1206438F	SPACE CONTROL TECHNOLOGY	91,018	106,018
		NTS-3 Payload		[15,000]
066	1206730F	SPACE SECURITY AND DEFENSE PROGRAM	45,542	49,542
		Allied launch services		[4,000]
067	1206760F	PROTECTED TACTICAL ENTERPRISE SERVICE (PTES)	51,419	51,419
068	1206761F	PROTECTED TACTICAL SERVICE (PTS)	29,776	29,776
069	1206855F	PROTECTED SATCOM SERVICES (PSCS)—AGGREGATED	29,379	29,379
070	1206857F	OPERATIONALLY RESPONSIVE SPACE	366,050	267,050
		Space RCO Advanced Solar Power—early to need		[-99,000]
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	6,529,943	6,454,343
		SYSTEM DEVELOPMENT & DEMONSTRATION		
071	0604200F	FUTURE ADVANCED WEAPON ANALYSIS & PROGRAMS	39,602	39,602
072	0604201F	INTEGRATED AVIONICS PLANNING AND DEVELOPMENT	58,531	58,531
073	0604222F	NUCLEAR WEAPONS SUPPORT	4,468	4,468
074	0604270F	ELECTRONIC WARFARE DEVELOPMENT	1,909	1,909
075	0604281F	TACTICAL DATA NETWORKS ENTERPRISE	207,746	207,746
076	0604287F	PHYSICAL SECURITY EQUIPMENT	14,421	14,421
077	0604329F	SMALL DIAMETER BOMB (SDB)—EMD	73,158	93,158
		SDB II cost reduction initiatives		[20,000]
081	0604429F	AIRBORNE ELECTRONIC ATTACK	7,153	7,153
083	0604602F	ARMAMENT/ORDNANCE DEVELOPMENT	58,590	58,590
084	0604604F	SUBUNITIONS	2,990	2,990
085	0604617F	AGILE COMBAT SUPPORT	20,028	20,028
086	0604618F	JOINT DIRECT ATTACK MUNITION	15,787	15,787
087	0604706F	LIFE SUPPORT SYSTEMS	8,919	8,919
088	0604735F	COMBAT TRAINING RANGES	35,895	62,895
		Advanced threat radar system		[27,000]
089	0604800F	F-35—EMD	69,001	69,001
091	0604932F	LONG RANGE STANDOFF WEAPON	614,920	699,920
		Accelerated execution of program		[85,000]
092	0604933F	ICBM FUZE MODERNIZATION	172,902	172,902
097	0605221F	KC-46	88,170	88,170
098	0605223F	ADVANCED PILOT TRAINING	265,465	265,465
099	0605229F	COMBAT RESCUE HELICOPTER	457,652	457,652
105	0605830F	ACQ WORKFORCE- GLOBAL BATTLE MGMT	3,617	3,617
106	0605931F	B-2 DEFENSIVE MANAGEMENT SYSTEM	261,758	261,758
107	1011125F	NUCLEAR WEAPONS MODERNIZATION	91,907	91,907
108	0207171F	F-15 EPAWSS	137,095	137,095
109	0207328F	STAND IN ATTACK WEAPON	43,175	43,175
110	0207423F	ADVANCED COMMUNICATIONS SYSTEMS	14,888	14,888
111	0207701F	FULL COMBAT MISSION TRAINING	1,015	1,015
115	0307581F	JSTARS RECAP		623,000
		JSTARS recap EMD execution		[623,000]

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116	0401310F	C-32 EXECUTIVE TRANSPORT RECAPITALIZATION	7,943	7,943
117	0401319F	PRESIDENTIAL AIRCRAFT RECAPITALIZATION (PAR)	673,032	673,032
118	0701212F	AUTOMATED TEST SYSTEMS	13,653	13,653
119	1203176F	COMBAT SURVIVOR EVADER LOCATOR	939	939
120	1203269F	GPS IIC	451,889	451,889
121	1203940F	SPACE SITUATION AWARENESS OPERATIONS	46,668	46,668
122	1206421F	COUNTERSPACE SYSTEMS	20,676	20,676
123	1206425F	SPACE SITUATION AWARENESS SYSTEMS	134,463	134,463
124	1206426F	SPACE FENCE	20,215	20,215
125	1206431F	ADVANCED EHF MILSATCOM (SPACE)	151,506	151,506
126	1206432F	POLAR MILSATCOM (SPACE)	27,337	27,337
127	1206433F	WIDEBAND GLOBAL SATCOM (SPACE)	3,970	3,970
128	1206441F	SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	60,565	60,565
129	1206442F	EVOLVED SBIRS	643,126	643,126
130	1206853F	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)—EMD.	245,447	245,447
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	5,272,191	6,027,191
		MANAGEMENT SUPPORT		
131	0604256F	THREAT SIMULATOR DEVELOPMENT	34,256	34,256
132	0604759F	MAJOR T&E INVESTMENT	91,844	91,844
133	0605101F	RAND PROJECT AIR FORCE	34,614	34,614
135	0605712F	INITIAL OPERATIONAL TEST & EVALUATION	18,043	18,043
136	0605807F	TEST AND EVALUATION SUPPORT	692,784	724,684
		<i>Test range modernization</i>		[31,900]
137	0605826F	ACQ WORKFORCE- GLOBAL POWER	233,924	233,924
138	0605827F	ACQ WORKFORCE- GLOBAL VIG & COMBAT SYS	263,488	263,488
139	0605828F	ACQ WORKFORCE- GLOBAL REACH	153,591	153,591
140	0605829F	ACQ WORKFORCE- CYBER, NETWORK, & BUS SYS	232,315	232,315
141	0605830F	ACQ WORKFORCE- GLOBAL BATTLE MGMT	169,868	169,868
142	0605831F	ACQ WORKFORCE- CAPABILITY INTEGRATION	226,219	226,219
143	0605832F	ACQ WORKFORCE- ADVANCED PRGM TECHNOLOGY	38,400	38,400
144	0605833F	ACQ WORKFORCE- NUCLEAR SYSTEMS	125,761	125,761
147	0605898F	MANAGEMENT HQ—R&D	10,642	10,642
148	0605976F	FACILITIES RESTORATION AND MODERNIZATION—TEST AND EVALUATION SUPPORT.	162,216	162,216
149	0605978F	FACILITIES SUSTAINMENT—TEST AND EVALUATION SUPPORT	28,888	28,888
150	0606017F	REQUIREMENTS ANALYSIS AND MATURATION	35,285	35,285
153	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	20,545	20,545
154	0702806F	ACQUISITION AND MANAGEMENT SUPPORT	12,367	12,367
155	0804731F	GENERAL SKILL TRAINING	1,448	1,448
157	1001004F	INTERNATIONAL ACTIVITIES	3,998	3,998
158	1206116F	SPACE TEST AND TRAINING RANGE DEVELOPMENT	23,254	23,254
159	1206392F	SPACE AND MISSILE CENTER (SMC) CIVILIAN WORKFORCE	169,912	169,912
160	1206398F	SPACE & MISSILE SYSTEMS CENTER—MHA	10,508	10,508
161	1206860F	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	19,721	29,721
		<i>Rocket systems launch program</i>		[10,000]
162	1206864F	SPACE TEST PROGRAM (STP)	25,620	75,620
		<i>Blackjack project</i>		[50,000]
		SUBTOTAL MANAGEMENT SUPPORT	2,839,511	2,931,411
		OPERATIONAL SYSTEMS DEVELOPMENT		
165	0604233F	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	11,344	11,344
167	0605018F	AF INTEGRATED PERSONNEL AND PAY SYSTEM (AF-IPPS)	47,287	47,287
168	0605024F	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	32,770	32,770
169	0605117F	FOREIGN MATERIEL ACQUISITION AND EXPLOITATION	68,368	68,368
170	0605278F	HC/MC-130 RECAP RDT&E	32,574	32,574
171	0606018F	NC3 INTEGRATION	26,112	26,112
172	0606942F	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES ...	99,100	99,100
173	0101113F	B-52 SQUADRONS	280,414	295,114
		<i>Technical adjustment</i>		[14,700]
174	0101122F	AIR-LAUNCHED CRUISE MISSILE (ALCM)	5,955	5,955
175	0101126F	B-1B SQUADRONS	76,030	76,030
176	0101127F	B-2 SQUADRONS	105,561	105,561
177	0101213F	MINUTEMAN SQUADRONS	156,047	156,047
179	0101316F	WORLDWIDE JOINT STRATEGIC COMMUNICATIONS	10,442	10,442
180	0101324F	INTEGRATED STRATEGIC PLANNING & ANALYSIS NETWORK	22,833	22,833
181	0101328F	ICBM REENTRY VEHICLES	18,412	18,412
183	0102110F	UH-1N REPLACEMENT PROGRAM	288,022	288,022
184	0102326F	REGION/SECTOR OPERATION CONTROL CENTER MODERNIZA- TION PROGRAM.	9,252	9,252
186	0205219F	MQ-9 UAV	115,345	115,345
188	0207131F	A-10 SQUADRONS	26,738	26,738
189	0207133F	F-16 SQUADRONS	191,564	191,564
190	0207134F	F-15E SQUADRONS	192,883	242,883
		<i>ALQ-128 EW suite for ANG units</i>		[50,000]
191	0207136F	MANNED DESTRUCTIVE SUPPRESSION	15,238	15,238

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192	0207138F	F-22A SQUADRONS	603,553	583,853
		Program reduction		[-19,700]
193	0207142F	F-35 SQUADRONS	549,501	549,501
194	0207161F	TACTICAL AIM MISSILES	37,230	37,230
195	0207163F	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	61,393	61,393
196	0207227F	COMBAT RESCUE—PARARESCUE	647	647
198	0207249F	PRECISION ATTACK SYSTEMS PROCUREMENT	14,891	14,891
199	0207253F	COMPASS CALL	13,901	13,901
200	0207268F	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	121,203	121,203
202	0207325F	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	60,062	60,062
203	0207410F	AIR & SPACE OPERATIONS CENTER (AOC)	106,102	79,602
		Unjustified request		[-26,500]
204	0207412F	CONTROL AND REPORTING CENTER (CRC)	6,413	6,413
205	0207417F	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	120,664	78,864
		Program reduction		[-5,800]
		Radar controller program delay		[-36,000]
206	0207418F	TACTICAL AIRBORNE CONTROL SYSTEMS	2,659	2,659
208	0207431F	COMBAT AIR INTELLIGENCE SYSTEM ACTIVITIES	10,316	10,316
209	0207444F	TACTICAL AIR CONTROL PARTY-MOD	6,149	6,149
210	0207448F	C2ISR TACTICAL DATA LINK	1,738	1,738
211	0207452F	DCAPES	13,297	13,297
212	0207573F	NATIONAL TECHNICAL NUCLEAR FORENSICS	1,788	1,788
213	0207581F	JOINT SURVEILLANCE/TARGET ATTACK RADAR SYSTEM (JSTARS)	14,888	14,888
214	0207590F	SEEK EAGLE	24,699	24,699
215	0207601F	USAF MODELING AND SIMULATION	17,078	17,078
216	0207605F	WARGAMING AND SIMULATION CENTERS	6,141	6,141
218	0207697F	DISTRIBUTED TRAINING AND EXERCISES	4,225	4,225
219	0208006F	MISSION PLANNING SYSTEMS	63,653	63,653
220	0208007F	TACTICAL DECEPTION	6,949	6,949
221	0208087F	AF OFFENSIVE CYBERSPACE OPERATIONS	40,526	40,526
222	0208088F	AF DEFENSIVE CYBERSPACE OPERATIONS	24,166	24,166
223	0208097F	JOINT CYBER COMMAND AND CONTROL (JCC2)	13,000	13,000
224	0208099F	UNIFIED PLATFORM (UP)	28,759	28,759
229	0301017F	GLOBAL SENSOR INTEGRATED ON NETWORK (GSIN)	3,579	3,579
230	0301112F	NUCLEAR PLANNING AND EXECUTION SYSTEM (NPES)	29,620	29,620
237	0301401F	AIR FORCE SPACE AND CYBER NON-TRADITIONAL ISR FOR BATTLESPACE AWARENESS	6,633	6,633
238	0302015F	E-4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	57,758	57,758
240	0303131F	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN)	99,088	99,088
241	0303133F	HIGH FREQUENCY RADIO SYSTEMS	51,612	51,612
242	0303140F	INFORMATION SYSTEMS SECURITY PROGRAM	34,612	34,612
244	0303142F	GLOBAL FORCE MANAGEMENT—DATA INITIATIVE	2,170	2,170
246	0304260F	AIRBORNE SIGINT ENTERPRISE	106,873	109,873
		SIGINT single-pod development		[3,000]
247	0304310F	COMMERCIAL ECONOMIC ANALYSIS	3,472	3,472
250	0305015F	C2 AIR OPERATIONS SUITE—C2 INFO SERVICES	8,608	8,608
251	0305020F	CCMD INTELLIGENCE INFORMATION TECHNOLOGY	1,586	1,586
252	0305099F	GLOBAL AIR TRAFFIC MANAGEMENT (GATM)	4,492	4,492
254	0305111F	WEATHER SERVICE	26,942	26,942
255	0305114F	AIR TRAFFIC CONTROL, APPROACH, AND LANDING SYSTEM (ATCALS)	6,271	8,771
		Augmentation of air surveillance and early warning radar systems		[2,500]
256	0305116F	AERIAL TARGETS	8,383	8,383
259	0305128F	SECURITY AND INVESTIGATIVE ACTIVITIES	418	418
261	0305146F	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	3,845	3,845
268	0305202F	DRAGON U-2	48,518	65,518
		EO/IR sensor upgrades		[17,000]
270	0305206F	AIRBORNE RECONNAISSANCE SYSTEMS	175,334	175,334
		Gorgon Stare		[10,800]
		Program reduction		[-10,800]
271	0305207F	MANNED RECONNAISSANCE SYSTEMS	14,223	14,223
272	0305208F	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	24,554	24,554
273	0305220F	RQ-4 UAV	221,690	211,890
		RQ-4 infrastructure unjustified request		[-9,800]
274	0305221F	NETWORK-CENTRIC COLLABORATIVE TARGETING	14,288	14,288
275	0305238F	NATO AGS	51,527	51,527
276	0305240F	SUPPORT TO DCGS ENTERPRISE	26,579	26,579
278	0305600F	INTERNATIONAL INTELLIGENCE TECHNOLOGY AND ARCHITECTURES	8,464	8,464
280	0305881F	RAPID CYBER ACQUISITION	4,303	4,303
284	0305984F	PERSONNEL RECOVERY COMMAND & CTRL (PRC2)	2,466	2,466
285	0307577F	INTELLIGENCE MISSION DATA (IMD)	4,117	4,117
287	0401115F	C-130 AIRLIFT SQUADRON	105,988	105,988
288	0401119F	C-5 AIRLIFT SQUADRONS (IF)	25,071	25,071
289	0401130F	C-17 AIRCRAFT (IF)	48,299	48,299
290	0401132F	C-130J PROGRAM	15,409	15,409

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291	0401134F	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	4,334	4,334
292	0401218F	KC-135S	3,493	3,493
293	0401219F	KC-10S	6,569	6,569
294	0401314F	OPERATIONAL SUPPORT AIRLIFT	3,172	3,172
295	0401318F	CV-22	18,502	18,502
296	0401840F	AMC COMMAND AND CONTROL SYSTEM	1,688	1,688
297	0408011F	SPECIAL TACTICS / COMBAT CONTROL	2,541	2,541
298	0702207F	DEPOT MAINTENANCE (NON-IP)	1,897	1,897
299	0708055F	MAINTENANCE, REPAIR & OVERHAUL SYSTEM	50,933	50,933
300	0708610F	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	13,787	13,787
301	0708611F	SUPPORT SYSTEMS DEVELOPMENT	4,497	4,497
302	0804743F	OTHER FLIGHT TRAINING	2,022	2,022
303	0808716F	OTHER PERSONNEL ACTIVITIES	108	108
304	0901202F	JOINT PERSONNEL RECOVERY AGENCY	2,023	2,023
305	0901218F	CIVILIAN COMPENSATION PROGRAM	3,772	3,772
306	0901220F	PERSONNEL ADMINISTRATION	6,358	6,358
307	0901226F	AIR FORCE STUDIES AND ANALYSIS AGENCY	1,418	1,418
308	0901538F	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT.	99,734	99,734
309	1201921F	SERVICE SUPPORT TO STRATCOM—SPACE ACTIVITIES	14,161	14,161
310	1202247F	AF TENCAP	26,986	26,986
311	1203001F	FAMILY OF ADVANCED BLOS TERMINALS (FAB-T)	80,168	80,168
312	1203110F	SATELLITE CONTROL NETWORK (SPACE)	17,808	17,808
314	1203165F	NAVSTAR GLOBAL POSITIONING SYSTEM (SPACE AND CONTROL SEGMENTS).	8,937	8,937
315	1203173F	SPACE AND MISSILE TEST AND EVALUATION CENTER	59,935	59,935
316	1203174F	SPACE INNOVATION, INTEGRATION AND RAPID TECHNOLOGY DEVELOPMENT.	21,019	21,019
317	1203179F	INTEGRATED BROADCAST SERVICE (IBS)	8,568	8,568
318	1203182F	SPACELIFT RANGE SYSTEM (SPACE)	10,641	10,641
319	1203265F	GPS III SPACE SEGMENT	144,543	144,543
320	1203400F	SPACE SUPERIORITY INTELLIGENCE	16,278	16,278
321	1203614F	JSPOC MISSION SYSTEM	72,256	72,256
322	1203620F	NATIONAL SPACE DEFENSE CENTER	42,209	42,209
325	1203913F	NUDET DETECTION SYSTEM (SPACE)	19,778	19,778
326	1203940F	SPACE SITUATION AWARENESS OPERATIONS	19,572	19,572
327	1206423F	GLOBAL POSITIONING SYSTEM III—OPERATIONAL CONTROL SEGMENT.	513,235	513,235
327A	999999999	CLASSIFIED PROGRAMS	16,534,124	16,390,224
		Classified adjustment		[-40,000]
		Forward financed in the FY18 Omnibus		[-89,900]
		PDSA staff reduction		[-14,000]
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT ..	22,891,740	22,737,240
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, AF.	40,178,343	40,889,443
		RESEARCH, DEVELOPMENT, TEST & EVAL, DW		
		BASIC RESEARCH		
001	0601000BR	DTRA BASIC RESEARCH	37,023	37,023
002	0601101E	DEFENSE RESEARCH SCIENCES	422,130	422,130
003	0601110D8Z	BASIC RESEARCH INITIATIVES	42,702	42,702
004	0601117E	BASIC OPERATIONAL MEDICAL RESEARCH SCIENCE	47,825	47,825
005	0601120D8Z	NATIONAL DEFENSE EDUCATION PROGRAM	85,919	85,919
006	0601228D8Z	HISTORICALLY BLACK COLLEGES AND UNIVERSITIES/MINORITY INSTITUTIONS.	30,412	40,412
		Program increase		[10,000]
007	0601384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	42,103	42,103
		SUBTOTAL BASIC RESEARCH	708,114	718,114
		APPLIED RESEARCH		
008	0602000D8Z	JOINT MUNITIONS TECHNOLOGY	19,170	19,170
009	0602115E	BIOMEDICAL TECHNOLOGY	101,300	101,300
011	0602234D8Z	LINCOLN LABORATORY RESEARCH PROGRAM	51,596	51,596
012	0602251D8Z	APPLIED RESEARCH FOR THE ADVANCEMENT OF S&T PRIORITIES.	60,688	60,688
013	0602303E	INFORMATION & COMMUNICATIONS TECHNOLOGY	395,317	395,317
014	0602383E	BIOLOGICAL WARFARE DEFENSE	38,640	38,640
015	0602384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	192,674	192,674
016	0602668D8Z	CYBER SECURITY RESEARCH	14,969	14,969
017	0602702E	TACTICAL TECHNOLOGY	335,466	335,466
018	0602715E	MATERIALS AND BIOLOGICAL TECHNOLOGY	226,898	226,898
019	0602716E	ELECTRONICS TECHNOLOGY	333,847	333,847
020	0602718BR	COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH.	161,151	161,151
021	0602751D8Z	SOFTWARE ENGINEERING INSTITUTE (SEI) APPLIED RESEARCH.	9,300	9,300
022	1160401BB	SOF TECHNOLOGY DEVELOPMENT	35,921	35,921

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SUBTOTAL APPLIED RESEARCH			1,976,937	1,976,937
ADVANCED TECHNOLOGY DEVELOPMENT				
023	0603000D8Z	JOINT MUNITIONS ADVANCED TECHNOLOGY	25,598	25,598
024	0603122D8Z	COMBATING TERRORISM TECHNOLOGY SUPPORT	125,271	125,271
025	0603133D8Z	FOREIGN COMPARATIVE TESTING	24,532	24,532
027	0603160BR	COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT.	299,858	299,858
028	0603176C	ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT	13,017	13,017
029	0603178C	WEAPONS TECHNOLOGY		10,000
		Accelerate hypersonic defense capability		[10,000]
031	0603180C	ADVANCED RESEARCH	20,365	40,365
		Accelerate hypersonic defense capability		[20,000]
032	0603225D8Z	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	18,644	18,644
034	0603286E	ADVANCED AEROSPACE SYSTEMS	277,603	277,603
035	0603287E	SPACE PROGRAMS AND TECHNOLOGY	254,671	254,671
036	0603288D8Z	ANALYTIC ASSESSMENTS	19,472	19,472
037	0603289D8Z	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS	37,263	37,263
038	0603291D8Z	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS—MHA	13,621	13,621
039	0603294C	COMMON KILL VEHICLE TECHNOLOGY	189,753	100,753
		Early to need		[-89,000]
040	0603342D8W	DEFENSE INNOVATION UNIT EXPERIMENTAL (DIUX)	29,364	29,364
041	0603375D8Z	TECHNOLOGY INNOVATION	83,143	83,143
042	0603384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—ADVANCED DEVELOPMENT.	142,826	142,826
043	0603527D8Z	RETRACT LARCH	161,128	161,128
044	0603618D8Z	JOINT ELECTRONIC ADVANCED TECHNOLOGY	12,918	12,918
045	0603648D8Z	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	106,049	106,049
046	0603662D8Z	NETWORKED COMMUNICATIONS CAPABILITIES	12,696	12,696
047	0603680D8Z	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROGRAM.	114,637	114,637
048	0603680S	MANUFACTURING TECHNOLOGY PROGRAM	49,667	49,667
049	0603699D8Z	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT	48,338	48,338
050	0603712S	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS	11,778	11,778
052	0603716D8Z	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	76,514	76,514
053	0603720S	MICROELECTRONICS TECHNOLOGY DEVELOPMENT AND SUPPORT.	168,931	168,931
054	0603727D8Z	JOINT WARFIGHTING PROGRAM	5,992	5,992
055	0603739E	ADVANCED ELECTRONICS TECHNOLOGIES	111,099	111,099
056	0603760E	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	185,984	185,984
057	0603766E	NETWORK-CENTRIC WARFARE TECHNOLOGY	438,569	438,569
058	0603767E	SENSOR TECHNOLOGY	190,128	190,128
059	0603769D8Z	DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT.	13,564	13,564
060	0603781D8Z	SOFTWARE ENGINEERING INSTITUTE	15,050	15,050
061	0603826D8Z	QUICK REACTION SPECIAL PROJECTS	69,626	69,626
062	0603833D8Z	ENGINEERING SCIENCE & TECHNOLOGY	19,415	19,415
063	0603924D8Z	HIGH ENERGY LASER ADVANCED TECHNOLOGY PROGRAM	69,533	69,533
064	0603941D8Z	TEST & EVALUATION SCIENCE & TECHNOLOGY	96,389	96,389
065	0604055D8Z	OPERATIONAL ENERGY CAPABILITY IMPROVEMENT	40,582	40,582
066	0303310D8Z	CWMD SYSTEMS	26,644	26,644
067	1160402BB	SOF ADVANCED TECHNOLOGY DEVELOPMENT	79,380	79,380
SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT			3,699,612	3,640,612
ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES				
068	0603161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E ADC&P.	28,140	28,140
069	0603600D8Z	WALKOFF	92,222	92,222
070	0603821D8Z	ACQUISITION ENTERPRISE DATA & INFORMATION SERVICES	2,506	2,506
071	0603851D8Z	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM.	40,016	40,016
072	0603881C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT	214,173	359,173
		Accelerate USFK JEON delivery		[100,000]
		Address cyber threats		[45,000]
073	0603882C	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT	926,359	726,359
		Address cyber threats		[8,000]
		Forward financed in the FY18 Omnibus		[-208,000]
074	0603884BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—DEM/VAL	129,886	129,886
075	0603884C	BALLISTIC MISSILE DEFENSE SENSORS	220,876	245,876
		Accelerate USFK JEON delivery		[20,000]
		Address cyber threats		[5,000]
076	0603890C	BMD ENABLING PROGRAMS	540,926	540,926
077	0603891C	SPECIAL PROGRAMS—MDA	422,348	422,348
078	0603892C	AEGIS BMD	767,539	767,539
081	0603896C	BALLISTIC MISSILE DEFENSE COMMAND AND CONTROL, BATTLE MANAGEMENT AND COMMUNICATI.	475,168	483,168
		Address cyber threats		[8,000]

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082	0603898C	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT ...	48,767	48,767
083	0603904C	MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC).	54,925	54,925
084	0603906C	REGARDING TRENCH	16,916	16,916
085	0603907C	SEA BASED X-BAND RADAR (SBX)	149,715	116,715
		Forward financed in the FY18 Omnibus		[-33,000]
086	0603913C	ISRAELI COOPERATIVE PROGRAMS	300,000	300,000
087	0603914C	BALLISTIC MISSILE DEFENSE TEST	365,681	430,681
		Accelerate USFK JEON delivery		[50,000]
		Address cyber threats		[15,000]
088	0603915C	BALLISTIC MISSILE DEFENSE TARGETS	517,852	491,352
		Accelerate USFK JEON delivery		[4,500]
		Address cyber threats		[5,000]
		Forward financed in the FY18 Omnibus		[-36,000]
089	0603920D8Z	HUMANITARIAN DEMINING	11,347	11,347
090	0603923D8Z	COALITION WARFARE	8,528	8,528
091	0604016D8Z	DEPARTMENT OF DEFENSE CORROSION PROGRAM	3,477	3,477
092	0604115C	TECHNOLOGY MATURATION INITIATIVES	148,822	203,822
		Address cyber threats		[5,000]
		Continue directed energy and boost phase intercept efforts		[50,000]
093	0604132D8Z	MISSILE DEFEAT PROJECT	58,607	58,607
094	0604134BR	COUNTER IMPROVISED-THREAT DEMONSTRATION, PROTOTYPE DEVELOPMENT, AND TESTING.	12,993	12,993
095	0604181C	HYPERSONIC DEFENSE	120,444	130,444
		Accelerate hypersonic defense capability		[10,000]
096	0604250D8Z	ADVANCED INNOVATIVE TECHNOLOGIES	1,431,702	1,381,702
		Program reduction		[-50,000]
097	0604294D8Z	TRUSTED & ASSURED MICROELECTRONICS	233,142	233,142
098	0604331D8Z	RAPID PROTOTYPING PROGRAM	99,333	99,333
098A	0604342D8Z	DEFENSE TECHNOLOGY OFFSET		100,000
		Directed energy		[100,000]
099	0604400D8Z	DEPARTMENT OF DEFENSE (DOD) UNMANNED SYSTEM COMMON DEVELOPMENT.	3,781	3,781
100	0604673C	PACIFIC DISCRIMINATING RADAR	95,765	95,765
101	0604682D8Z	WARGAMING AND SUPPORT FOR STRATEGIC ANALYSIS (SSA)	3,768	3,768
103	0604826J	JOINT C5 CAPABILITY DEVELOPMENT, INTEGRATION AND INTEROPERABILITY ASSESSMENTS.	22,435	22,435
104	0604873C	LONG RANGE DISCRIMINATION RADAR (LRDR)	164,562	164,562
105	0604874C	IMPROVED HOMELAND DEFENSE INTERCEPTORS	561,220	421,820
		Forward financed in the FY18 Omnibus		[-139,400]
106	0604876C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT TEST.	61,017	61,017
107	0604878C	AEGIS BMD TEST	95,756	95,756
108	0604879C	BALLISTIC MISSILE DEFENSE SENSOR TEST	81,001	81,001
109	0604880C	LAND-BASED SM-3 (LBSM3)	27,692	27,842
		Retain Poland CHUs		[150]
111	0604887C	BALLISTIC MISSILE DEFENSE MIDCOURSE SEGMENT TEST	81,934	72,634
		Forward financed in the FY18 Omnibus		[-9,300]
112	0604894C	MULTI-OBJECT KILL VEHICLE	8,256	8,256
113	0300206R	ENTERPRISE INFORMATION TECHNOLOGY SYSTEMS	2,600	2,600
114	0303191D8Z	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	3,104	3,104
115	0305103C	CYBER SECURITY INITIATIVE	985	985
116	1206893C	SPACE TRACKING & SURVEILLANCE SYSTEM	36,955	36,955
117	1206895C	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS	16,484	74,484
		Address cyber threats		[8,000]
		Develop space sensor architecture		[50,000]
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES.	8,709,725	8,717,675
		SYSTEM DEVELOPMENT AND DEMONSTRATION		
118	0604161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E SDD.	8,333	8,333
119	0604165D8Z	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT	263,414	413,414
		Accelerate program		[150,000]
120	0604384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—EMD	388,701	388,701
121	0604771D8Z	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)	19,503	19,503
122	0605000BR	COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT.	6,163	6,163
123	0605013BL	INFORMATION TECHNOLOGY DEVELOPMENT	11,988	11,988
124	0605021SE	HOMELAND PERSONNEL SECURITY INITIATIVE	296	296
125	0605022D8Z	DEFENSE EXPORTABILITY PROGRAM	1,489	1,489
126	0605027D8Z	OSD(C) IT DEVELOPMENT INITIATIVES	9,590	9,590
127	06050708	DOD ENTERPRISE SYSTEMS DEVELOPMENT AND DEMONSTRATION.	3,173	3,173
128	0605075D8Z	DCMO POLICY AND INTEGRATION	2,105	2,105
129	06050808	DEFENSE AGENCY INITIATIVES (DAI)—FINANCIAL SYSTEM	21,156	21,156
130	06050908	DEFENSE RETIRED AND ANNUITANT PAY SYSTEM (DRAS)	10,731	10,731
132	0605210D8Z	DEFENSE-WIDE ELECTRONIC PROCUREMENT CAPABILITIES	6,374	6,374

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133	0605294D8Z	TRUSTED & ASSURED MICROELECTRONICS	56,178	56,178
134	0303141K	GLOBAL COMBAT SUPPORT SYSTEM	2,512	2,512
135	0305304D8Z	DOD ENTERPRISE ENERGY INFORMATION MANAGEMENT (EEM).	2,435	2,435
136	0305310D8Z	CWMD SYSTEMS: SYSTEM DEVELOPMENT AND DEMONSTRATION.	17,048	17,048
		SUBTOTAL SYSTEM DEVELOPMENT AND DEMONSTRATION.	831,189	981,189
		MANAGEMENT SUPPORT		
137	0604774D8Z	DEFENSE READINESS REPORTING SYSTEM (DRRS)	6,661	6,661
138	0604875D8Z	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	4,088	4,088
139	0604940D8Z	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT (CTEIP).	258,796	258,796
140	0604942D8Z	ASSESSMENTS AND EVALUATIONS	31,356	31,356
141	0605001E	MISSION SUPPORT	65,646	65,646
142	0605100D8Z	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETC)	84,184	84,184
143	0605104D8Z	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	22,576	22,576
144	0605126J	JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION (JIAMDO).	52,565	42,565
		Unjustified program growth		[-10,000]
146	0605142D8Z	SYSTEMS ENGINEERING	38,872	38,872
147	0605151D8Z	STUDIES AND ANALYSIS SUPPORT—OSD	3,534	3,534
148	0605161D8Z	NUCLEAR MATTERS-PHYSICAL SECURITY	5,050	5,050
149	0605170D8Z	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	11,450	11,450
150	0605200D8Z	GENERAL SUPPORT TO USD (INTELLIGENCE)	1,693	1,693
151	0605384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	102,883	102,883
159	0605790D8Z	SMALL BUSINESS INNOVATION RESEARCH (SBIR)/ SMALL BUSINESS TECHNOLOGY TRANSFER.	2,545	2,545
160	0605798D8Z	DEFENSE TECHNOLOGY ANALYSIS	24,487	24,487
161	0605801KA	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	56,853	56,853
162	0605803SE	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING AND EVALUATION.	24,914	24,914
163	0605804D8Z	DEVELOPMENT TEST AND EVALUATION	20,179	20,179
164	0605898E	MANAGEMENT HQ—R&D	13,643	13,643
165	060598KA	MANAGEMENT HQ—DEFENSE TECHNICAL INFORMATION CENTER (DTIC).	4,124	4,124
166	0606100D8Z	BUDGET AND PROGRAM ASSESSMENTS	5,768	5,768
167	0606225D8Z	ODNA TECHNOLOGY AND RESOURCE ANALYSIS	1,030	1,030
168	0606589D8W	DEFENSE DIGITAL SERVICE (DDS) DEVELOPMENT SUPPORT	1,000	1,000
169	0606942C	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES	3,400	3,400
170	0606942S	ASSESSMENTS AND EVALUATIONS CYBER VULNERABILITIES	4,000	4,000
171	0203345D8Z	DEFENSE OPERATIONS SECURITY INITIATIVE (DOSI)	3,008	3,008
172	0204571J	JOINT STAFF ANALYTICAL SUPPORT	6,658	6,658
175	0303166J	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES	652	652
176	0303260D8Z	DEFENSE MILITARY DECEPTION PROGRAM OFFICE (DMDPO)	1,005	1,005
177	0305172K	COMBINED ADVANCED APPLICATIONS	21,363	21,363
180	0305245D8Z	INTELLIGENCE CAPABILITIES AND INNOVATION INVESTMENTS	109,529	109,529
181	0306310D8Z	CWMD SYSTEMS: RDT&E MANAGEMENT SUPPORT	1,244	1,244
184	0804768J	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION (CE2T2)—NON-MHA.	42,940	42,940
185	0901598C	MANAGEMENT HQ—MDA	28,626	28,626
187	0903235K	JOINT SERVICE PROVIDER (JSP)	5,104	5,104
188A	999999999	CLASSIFIED PROGRAMS	45,604	45,604
		SUBTOTAL MANAGEMENT SUPPORT	1,117,030	1,107,030
		OPERATIONAL SYSTEM DEVELOPMENT		
189	0604130V	ENTERPRISE SECURITY SYSTEM (ESS)	9,750	9,750
190	0605127T	REGIONAL INTERNATIONAL OUTREACH (RIO) AND PARTNERSHIP FOR PEACE INFORMATION MANA.	1,855	1,855
191	0605147T	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SYSTEM (OHASIS).	304	304
192	0607210D8Z	INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT SUPPORT	10,376	10,376
193	0607310D8Z	CWMD SYSTEMS: OPERATIONAL SYSTEMS DEVELOPMENT	5,915	5,915
194	0607327T	GLOBAL THEATER SECURITY COOPERATION MANAGEMENT INFORMATION SYSTEMS (G-TSCMIS).	5,869	5,869
195	0607384BP	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS DEVELOPMENT).	48,741	48,741
196	0208043J	PLANNING AND DECISION AID SYSTEM (PDAS)	3,037	3,037
197	0208045K	CAI INTEROPERABILITY	62,814	62,814
203	0302019K	DEFENSE INFO INFRASTRUCTURE ENGINEERING AND INTEGRATION.	16,561	16,561
204	0303126K	LONG-HAUL COMMUNICATIONS—DCS	14,769	14,769
205	0303131K	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN).	17,579	17,579
207	0303136G	KEY MANAGEMENT INFRASTRUCTURE (KMI)	31,737	31,737
208	0303140D8Z	INFORMATION SYSTEMS SECURITY PROGRAM	7,940	17,940
		Expand cyber scholarship program		[10,000]

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209	0303140G	INFORMATION SYSTEMS SECURITY PROGRAM	229,252	229,252
210	0303140K	INFORMATION SYSTEMS SECURITY PROGRAM	19,611	19,611
211	0303150K	GLOBAL COMMAND AND CONTROL SYSTEM	46,900	46,900
212	0303153K	DEFENSE SPECTRUM ORGANIZATION	7,570	7,570
213	0303228K	JOINT INFORMATION ENVIRONMENT (JIE)	7,947	7,947
215	0303430K	FEDERAL INVESTIGATIVE SERVICES INFORMATION TECHNOLOGY.	39,400	39,400
224	0305186D8Z	POLICY R&D PROGRAMS	6,262	6,262
225	0305199D8Z	NET CENTRICITY	16,780	16,780
227	0305208BB	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	6,286	6,286
230	0305208K	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	2,970	2,970
233	0305327V	INSIDER THREAT	5,954	5,954
234	0305387D8Z	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM	2,198	2,198
240	0307577D8Z	INTELLIGENCE MISSION DATA (IMD)	6,889	6,889
242	0708012K	LOGISTICS SUPPORT ACTIVITIES	1,317	1,317
243	0708012S	PACIFIC DISASTER CENTERS	1,770	1,770
244	0708047S	DEFENSE PROPERTY ACCOUNTABILITY SYSTEM	1,805	1,805
246	1105219BB	MQ-9 UAV	18,403	18,403
248	1160403BB	AVIATION SYSTEMS	184,993	179,993
		Realignement of funds		[-5,000]
249	1160405BB	INTELLIGENCE SYSTEMS DEVELOPMENT	10,625	10,625
250	1160408BB	OPERATIONAL ENHANCEMENTS	102,307	102,307
251	1160431BB	WARRIOR SYSTEMS	46,942	46,942
252	1160432BB	SPECIAL PROGRAMS	2,479	2,479
253	1160434BB	UNMANNED ISR	27,270	27,270
254	1160480BB	SOP TACTICAL VEHICLES	1,121	1,121
255	1160483BB	MARITIME SYSTEMS	42,471	42,471
256	1160489BB	GLOBAL VIDEO SURVEILLANCE ACTIVITIES	4,780	4,780
257	1160490BB	OPERATIONAL ENHANCEMENTS INTELLIGENCE	12,176	12,176
258	1203610K	TELEPORT PROGRAM	2,323	2,323
258A	999999999	CLASSIFIED PROGRAMS	3,877,898	3,877,898
		SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT	4,973,946	4,978,946
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, DW.	22,016,553	22,120,503
		OPERATIONAL TEST & EVAL, DEFENSE MANAGEMENT SUPPORT		
001	0605118OTE	OPERATIONAL TEST AND EVALUATION	85,685	85,685
002	0605131OTE	LIVE FIRE TEST AND EVALUATION	64,332	64,332
003	0605814OTE	OPERATIONAL TEST ACTIVITIES AND ANALYSES	70,992	70,992
		SUBTOTAL MANAGEMENT SUPPORT	221,009	221,009
		TOTAL OPERATIONAL TEST & EVAL, DEFENSE	221,009	221,009
		TOTAL RDT&E	91,056,950	91,971,150

1 **SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUA-**
 2 **TION FOR OVERSEAS CONTINGENCY OPER-**
 3 **ATIONS.**

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Program Element	Item	FY 2019 Request	House Authorized
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
056	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	1,000	0
		Realignement of EDI APS Unit Set from OCO to Base		[-1,000]
058	0603627A	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	1,500	1,500
061	0603747A	SOLDIER SUPPORT AND SURVIVABILITY	3,000	3,000
076	0604117A	MANEUVER—SHORT RANGE AIR DEFENSE (M-SHORAD)	23,000	0
		Realignement of EDI APS Unit Set from OCO to Base		[-23,000]
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.	28,500	4,500
		SYSTEM DEVELOPMENT & DEMONSTRATION		
088	0604328A	TRACTOR CAGE	12,000	12,000
100	0604741A	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—ENG DEV.	119,300	119,300

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS
(In Thousands of Dollars)

Line	Program Element	Item	FY 2019 Request	House Authorized
125	0605032A	TRACTOR TIRE	66,760	66,760
128	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCM)	2,670	2,670
136	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT	34,933	34,933
147	0303032A	TROJAN—RH12	1,200	1,200
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	236,863	236,863
		OPERATIONAL SYSTEMS DEVELOPMENT		
184	0607131A	WEAPONS AND MUNITIONS PRODUCT IMPROVEMENT PROGRAMS	2,548	2,548
185	0607133A	TRACTOR SMOKE	7,780	7,780
206	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	2,000	0
		<i>Realignment of EDI APS Unit Set from OCO to Base</i>		<i>[-2,000]</i>
209	0205402A	INTEGRATED BASE DEFENSE—OPERATIONAL SYSTEM DEV	8,000	8,000
216	0303028A	SECURITY AND INTELLIGENCE ACTIVITIES	23,199	23,199
226	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS	14,000	0
		<i>Realignment of EDI APS Unit Set from OCO to Base</i>		<i>[-14,000]</i>
231	0307665A	BIOMETRICS ENABLED INTELLIGENCE	2,214	2,214
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	59,741	43,741
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY.	325,104	285,104
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
041	0603527N	RETRACT LARCH	18,000	18,000
061	0603654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	13,900	13,900
074	0603795N	LAND ATTACK TECHNOLOGY	1,400	1,400
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.	33,300	33,300
		SYSTEM DEVELOPMENT & DEMONSTRATION		
149	0604755N	SHIP SELF DEFENSE (DETECT & CONTROL)	1,100	1,100
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	1,100	1,100
		OPERATIONAL SYSTEMS DEVELOPMENT		
236	0206313M	MARINE CORPS COMMUNICATIONS SYSTEMS	16,130	16,130
268A	999999999	CLASSIFIED PROGRAMS	117,282	117,282
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	133,412	133,412
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY.	167,812	167,812
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
065	1206438F	SPACE CONTROL TECHNOLOGY	1,100	1,100
070	1206857F	OPERATIONALLY RESPONSIVE SPACE	12,395	12,395
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.	13,495	13,495
		OPERATIONAL SYSTEMS DEVELOPMENT		
186	0205219F	MQ-9 UAV	4,500	4,500
187	0205671F	JOINT COUNTER RCIED ELECTRONIC WARFARE	4,000	4,000
188	0207131F	A-10 SQUADRONS	1,000	1,000
217	0207610F	BATTLEFIELD ABN COMM NODE (BACN)	42,349	42,349
228	0208288F	INTEL DATA APPLICATIONS	1,200	1,200
254	0305111F	WEATHER SERVICE	3,000	3,000
268	0305202F	DRAGON U-2	22,100	22,100
272	0305208F	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	29,500	29,500
310	1202247F	AF TENCAP	5,000	5,000
327A	999999999	CLASSIFIED PROGRAMS	188,127	188,127
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	300,776	300,776
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, AF.	314,271	314,271
		ADVANCED TECHNOLOGY DEVELOPMENT		
024	0603122D8Z	COMBATING TERRORISM TECHNOLOGY SUPPORT	25,000	25,000
026	0603134BR	COUNTER IMPROVISED-THREAT SIMULATION	13,648	13,648
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT ...	38,648	38,648
		ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES		
094	0604134BR	COUNTER IMPROVISED-THREAT DEMONSTRATION, PROTOTYPE DEVELOPMENT, AND TESTING.	242,668	242,668
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES.	242,668	242,668

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS

(In Thousands of Dollars)

<i>Line</i>	<i>Program Element</i>	<i>Item</i>	<i>FY 2019 Request</i>	<i>House Authorized</i>
		OPERATIONAL SYSTEM DEVELOPMENT		
250	1160408BB	OPERATIONAL ENHANCEMENTS	3,632	3,632
251	1160431BB	WARRIOR SYSTEMS	11,040	11,040
253	1160434BB	UNMANNED ISR	11,700	11,700
254	1160480BB	SOF TACTICAL VEHICLES	725	725
258A	999999999	CLASSIFIED PROGRAMS	192,131	192,131
		SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT	219,228	219,228
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, DW.	500,544	500,544
		TOTAL RDT&E	1,307,731	1,267,731

Items of Special Interest

Directed energy and non-lethal weapons technology policy and guidance

The budget request contained \$27.6 million in PE 63851M for Joint Non-Lethal Weapons testing.

The committee continues to support the Department of Defense's efforts to develop non-lethal technologies as a materiel solution to provide military commanders with a non-lethal capability to protect military bases, security perimeters, and other secured spaces. The committee acknowledges the importance of these technologies as a force multiplier that gives service members more options, and minimizes civilian casualties and collateral damage. Recent development efforts of High Power Radio Frequency directed energy technologies have advanced these weapons to a maturity that can be used globally by the military services and combatant commands to stop vehicles, vessels, and other systems. The committee is concerned that the lack of policy, strategy, and guidance for employment of these non-lethal weapons has limited the potential benefits of deploying these technologies for use more broadly across the combatant commands.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by November 1, 2018, on the future strategy for non-lethal weapons, including development of appropriate policy and guidance for employment. The briefing should also describe the current organizational structure of the non-lethal weapons program and consider the assignment of a joint proponent for non-lethal weapons who would be responsible for coordinating command requirements, facilitating policy development, and setting conditions for further integration of these capabilities.

The committee recommends \$32.6 million, an increase of \$5.0 million, in PE 63851M for the Non-Lethal Weapons program.

Marine Corps Group 5-class unmanned aircraft development

The budget request contained \$25.3 million in PE 34240M for development of advanced tactical unmanned aircraft system capabilities.

The committee understands that the Marine Corps plans to develop a medium- to large-sized, long-range, medium-altitude, multi-mission, unmanned aircraft system that can persist and survive in an anti-access, area-denial contingency environment. The committee is also aware of multiple capabilities and platforms across joint-service portfolios that could likely mitigate, if not eliminate, the capability gaps and shortfalls identified in the Marine Corps' Initial Capabilities Document, from August 10, 2016, "Marine Air Ground Task Force Unmanned Aircraft System Expeditionary Capabilities." The committee believes the Marine Corps underestimates the required communications, data link, launch, mission execution, and recovery infrastructure, or the human capital resources required to train, operate, maintain, and sustain such a system. The Marine Corps also

underestimates the necessary human capital resources required to meet current deployment-to-dwell policy and guidance issued by the Secretary of Defense.

Therefore, the committee recommends \$10.3 million, a decrease of \$15.0 million, in PE 34240M for development of advanced tactical unmanned aircraft system capabilities. The committee also directs the Chairman of the Joint Requirements Oversight Council to provide a briefing to the House Committee on Armed Services, not later than February 5, 2019, that assesses all existing or future joint-service capabilities that are similar in nature to the Marine Corps' planned system, and includes a detailed explanation for why each of those joint-service capabilities could not mitigate or fulfill the gaps or shortfalls identified by the Marine Corps. The committee also directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services, not later than February 5, 2019, that explains the acquisition and funding strategy of the Marine Corps to affordably develop and field an unmanned capability of this nature, and the personnel, funding, infrastructure, and mission-execution resources that would be needed to viably sustain and support this capability.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, AIR FORCE

Items of Special Interest

Wind energy development radar mitigation efforts

The budget request contained \$6.3 million in PE 35114F for the Air Traffic Control, Approach, and Landing System.

The committee understands the growing importance of renewable energy as a national security imperative, in particular the rapid expansion of wind energy as an alternative energy source. The committee also recognizes the potential impact of wind energy development on the operational readiness, training activities, safety, and force protection of Department of Defense service members, aircraft, and installations. Given the expected increase in the U.S. wind energy development, mitigation approaches must be further developed and accelerated.

The committee recommends that the U.S. Government and industry continue to evaluate the impacts of existing and planned wind energy developments in coordination with the Federal Interagency Wind Turbine Radar Impact Mitigation Working Group, and develop best practices for radar mitigation strategies. The committee is aware of an existing pilot program by the U.S. Transportation Command and Air Mobility Command to integrate gap-filler radar systems into their air traffic control operations to mitigate the impact of wind energy developments. This mitigation pilot program has reduced false target alerts and improved the situational awareness of air traffic control operators and the safety of aircrew. The committee recommends additional analysis to assess the feasibility and development requirements associated with the integration, operation, and performance of gap-fill radars integrated into existing air traffic command and control systems.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than October 31, 2018, on the status of the pilot mitigation project and strategy for developing gap-filler radar thresholds and requirements.

Additionally, the committee recommends \$8.8 million, an increase of \$2.5 million, in PE 35114F for the Air Traffic Control, Approach, and Landing System.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, DEFENSE-WIDE

Items of Special Interest

Minerva Research Initiative

The committee recognizes the valuable contributions the Minerva Research Initiative has had on social science research relevant to national security. This initiative has supported innovations in social science and translated important scientific discoveries in the field of counter-terrorism and counter-violent extremism. The committee believes similar research examining our peer and near-peer adversaries' growing influence and competitive advantage against the United States is necessary. According to the National Security Strategy of 2017, the People's Republic of China is reasserting its influence in order to deny the United States access in times of crisis and contest the Department of Defense's ability to operate freely in decisive locations. The committee believes additional national security-related social science research dedicated towards the Russian Federation, China, the Islamic Republic of Iran, and the Democratic People's Republic of Korea, and their export of military and security technology, will help understand these nations' true intentions and develop and implement strategy aimed at countering their influence.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than November 16, 2018, on the feasibility of expanding the Minerva Research Initiative to state actors, including Russia, China, Iran, and North Korea. The briefing should include the program's ability to provide substantive research addressing peer and near-peer adversary statecraft, to include, but not limited to, foreign influence, foreign investment, emerging technologies, and military exports.