

12 **TITLE II—RESEARCH, DEVELOP-**
13 **MENT, TEST, AND EVALUA-**
14 **TION**

15 **Subtitle A—Authorization of**
16 **Appropriations**

17 **SEC. 201. AUTHORIZATION OF APPROPRIATIONS.**

18 Funds are hereby authorized to be appropriated for
19 fiscal year 2018 for the use of the Department of Defense
20 for research, development, test, and evaluation as specified
21 in the funding table in section 4201.

1 **Subtitle B—Program Requirements, Restrictions, and Limitations**
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4 **SEC. 211. MECHANISMS FOR EXPEDITED ACCESS TO TECHNICAL TALENT AND EXPERTISE AT ACADEMIC INSTITUTIONS TO SUPPORT DEPARTMENT OF DEFENSE MISSIONS.**
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8 (a) ARRANGEMENTS AUTHORIZED.—

9 (1) IN GENERAL.—The Secretary of Defense
10 may establish one or more multi-institution task
11 order contracts, consortia, cooperative agreements,
12 or other arrangements to facilitate expedited access
13 to university technical expertise, including faculty,
14 staff, and students, in support of Department of De-
15 fense missions in the areas specified in subsection
16 (e).

17 (2) USE FOR TECHNICAL ANALYSES AND ENGI-
18 NEERING SUPPORT.—The Secretary may use an ar-
19 rangement under paragraph (1) to fund technical
20 analyses and other engineering support as required
21 to address acquisition and operational challenges, in-
22 cluding support for classified programs and activi-
23 ties.

24 (3) PERFORMANCE BY DESIGNATED UNIVER-
25 SITY PERFORMER.—The Secretary shall ensure that

1 work awarded through an arrangement under para-
2 graph (1) is performed primarily by the designated
3 university performer.

4 (b) LIMITATION.—An arrangement established under
5 subsection (a)(1) may not be used to fund research pro-
6 grams that can be executed through other Department of
7 Defense basic research activities.

8 (c) CONSULTATION WITH OTHER DEPARTMENT OF
9 DEFENSE ACTIVITIES.—An arrangement established
10 under subsection (a)(1) shall, to the degree practicable,
11 be made in consultation with other Department of Defense
12 activities, including federally funded research and develop-
13 ment centers (FFRDCs), university affiliated research
14 centers (UARCs), and Defense laboratories and test cen-
15 ters, for purposes of providing technical expertise and re-
16 ducing costs and duplicative efforts.

17 (d) POLICIES AND PROCEDURES.—If the Secretary
18 establishes one or more arrangements under subsection
19 (a)(1), the Secretary shall establish and implement policies
20 and procedures to govern—

21 (1) selection of participants in the arrangement
22 or arrangements;

23 (2) the awarding of task orders under the ar-
24 rangement or arrangements;

1 (3) maximum award size for tasks under the
2 arrangement or arrangements;

3 (4) the appropriate use of competitive awards
4 and sole source awards under the arrangement or
5 arrangements; and

6 (5) technical areas under the arrangement or
7 arrangements.

8 (e) MISSION AREAS.—The areas specified in this sub-
9 section are as follows:

10 (1) Cybersecurity.

11 (2) Air and ground vehicles.

12 (3) Shipbuilding.

13 (4) Explosives detection and defeat.

14 (5) Undersea warfare.

15 (6) Trusted electronics.

16 (7) Unmanned systems.

17 (8) Directed energy.

18 (9) Energy, power, and propulsion.

19 (10) Management science and operations re-
20 search.

21 (11) Artificial intelligence.

22 (12) Data analytics.

23 (13) Business systems.

24 (14) Technology transfer and transition.

1 (15) Biological engineering and genetic en-
2 hancement.

3 (16) High performance computing.

4 (17) Materials science and engineering.

5 (18) Quantum information sciences.

6 (19) Special operations activities.

7 (20) Modeling and simulation.

8 (21) Autonomous systems.

9 (22) Model based engineering.

10 (23) Such other areas as the Secretary con-
11 siders appropriate.

12 (f) SUNSET.—The authorities under this section shall
13 expire on September 30, 2020.

14 (g) ARRANGEMENTS ESTABLISHED UNDER SUB-
15 SECTION (A)(1) DEFINED.—In this section, the term “ar-
16 rangement established under subsection (a)(1)” means a
17 multi-institution task order contract, consortia, coopera-
18 tive agreement, or other arrangement established under
19 subsection (a)(1).

1 **SEC. 212. CODIFICATION AND ENHANCEMENT OF AUTHORI-**
2 **TIES TO PROVIDE FUNDS FOR DEFENSE LAB-**
3 **ORATORIES FOR RESEARCH AND DEVELOP-**
4 **MENT OF TECHNOLOGIES FOR MILITARY MIS-**
5 **SIONS.**

6 (a) IN GENERAL.—Chapter 139 of title 10, United
7 States Code, is amended by inserting after section 2362
8 the following new section:

9 **“§ 2363. Mechanisms to provide funds for defense lab-**
10 **oratories for research and development**
11 **of technologies for military missions**

12 “(a) MECHANISMS TO PROVIDE FUNDS.—(1) The
13 Secretary of Defense, in consultation with the Secretaries
14 of the military departments, shall establish mechanisms
15 under which the director of a defense laboratory may use
16 an amount of funds equal to not less than two percent
17 and not more than four percent of all funds available to
18 the defense laboratory for the following purposes:

19 “(A) To fund innovative basic and applied re-
20 search that is conducted at the defense laboratory
21 and supports military missions.

22 “(B) To fund development programs that sup-
23 port the transition of technologies developed by the
24 defense laboratory into operational use.

25 “(C) To fund workforce development activities
26 that improve the capacity of the defense laboratory

1 to recruit and retain personnel with necessary sci-
2 entific and engineering expertise that support mili-
3 tary missions.

4 “(D) To fund the revitalization recapitalization,
5 or minor military construction of the laboratory in-
6 frastructure and equipment, in accordance with sub-
7 section (b).

8 “(2) The mechanisms established under paragraph
9 (1) shall provide that funding shall be used under para-
10 graph (1) at the discretion of the director of a defense
11 laboratory in consultation with the science and technology
12 executive of the military department concerned.

13 “(3) After consultation with the science and tech-
14 nology executive of the military department concerned, the
15 director of a defense laboratory may charge customer ac-
16 tivities a fixed percentage fee, in addition to normal costs
17 of performance, in order to obtain funds to carry out ac-
18 tivities authorized by this subsection. The fixed fee may
19 not exceed four percent of costs.

20 “(b) AVAILABILITY OF FUNDS FOR INFRASTRUC-
21 TURE PROJECTS.—(1) Subject to the provisions of this
22 subsection, funds available under a mechanism under sub-
23 section (a)(1)(D) that are solely intended to carry out a
24 laboratory infrastructure project shall be available for
25 such project until expended.

1 “(2) Funds shall be available in accordance with
2 paragraph (1) for a project referred to in such paragraph
3 only if the Secretary notifies the congressional defense
4 committees of the total cost of the project before the date
5 on which the Secretary uses a mechanism under sub-
6 section (a)(1)(D) for such project.

7 “(3) Funds may accumulate under a mechanism
8 under subsection (a) for a project referred to in paragraph
9 (1) for not more than five years.

10 “(4) The Secretary shall ensure that a project re-
11 ferred to in paragraph (1) for which funds are made avail-
12 able in accordance with such paragraph complies with the
13 applicable cost limitations in the following provisions of
14 law:

15 “(A) Section 2805(d) of this title, with respect
16 to revitalization and recapitalization projects.

17 “(B) Section 2811 of this title, with respect to
18 repair projects.

19 “(C) Section 2802 of this title, with respect to
20 construction projects that exceed the cost specified
21 in subsection (a)(2) of section 2805 of this title for
22 certain unspecified minor military construction
23 projects for laboratories.

24 “(c) ANNUAL REPORT ON USE OF AUTHORITY.—Not
25 later than March 1 of each year, the Secretary of Defense

1 shall submit to the congressional defense committees a re-
 2 port on the use of the authority under subsection (a) dur-
 3 ing the preceding year.”.

4 (b) CLERICAL AMENDMENT.—The table of sections
 5 at the beginning of chapter 139 of such title is amended
 6 by inserting after the item relating to section 2362 the
 7 following new item:

“2363. Mechanisms to provide funds for defense laboratories for research and
 development of technologies for military missions.”.

8 (c) CONFORMING AMENDMENTS.—(1) Section 219 of
 9 the Duncan Hunter National Defense Authorization Act
 10 for Fiscal Year 2009 (Public Law 110–417; 10 U.S.C.
 11 2358 note), is hereby repealed.

12 (2) Section 2805(d)(1)(B) of title 10, United States
 13 Code, is amended by striking “under section 219(a) of the
 14 Duncan Hunter National Defense Authorization Act for
 15 Fiscal Year 2009 (Public Law 110–417; 10 U.S.C. 2358
 16 note)” and inserting “section 2363(a) of this title”.

17 **SEC. 213. MODIFICATION OF LABORATORY QUALITY EN-**
 18 **HANCEMENT PROGRAM.**

19 (a) IN GENERAL.—Section 211 of the National De-
 20 fense Authorization Act for Fiscal Year 2017 (Public Law
 21 114–328) is amended—

22 (1) in subsection (a)(1)—

23 (A) in subparagraph (A), by striking “;
 24 and” and inserting a semicolon;

1 (B) in subparagraph (B), by striking the
2 semicolon and inserting “; and”; and

3 (C) by adding at the end the following new
4 subparagraph:

5 “(C) new interpretations of existing stat-
6 utes and regulations that would enhance the
7 ability of a director of a science and technology
8 reinvention laboratory to manage the facility
9 and discharge the mission of the laboratory;”;

10 (2) in subsection (d), by adding at the end the
11 following new paragraph:

12 “(3)(A) Each panel described in paragraph (1), (2),
13 or (3) of subsection (b) shall submit to the panel described
14 in paragraph (4) of such subsection (relating to govern-
15 ance and oversight processes) the following:

16 “(i) The findings of the panel with respect to
17 the review conducted by the panel under subsection
18 (a)(1)(C).

19 “(ii) The recommendations made by the panel
20 under such subsection.

21 “(iii) Such comments, findings, and rec-
22 ommendations as the panel may have received by a
23 science and technology reinvention laboratory with
24 respect to—

1 “(I) the review conducted by the panel
2 under such subsection; or

3 “(II) recommendations made by the panel
4 under such subsection.

5 “(B)(i) The panel described in subsection (b)(4) shall
6 review and refashion such recommendations as the panel
7 may receive under subparagraph (A).

8 “(ii) In reviewing and refashioning recommendations
9 under clause (i), the panel may, as the panel considers
10 appropriate, consult with the science and technology execu-
11 tive of the affected service.

12 “(C) The panel described in subsection (b)(4) shall
13 submit to the Under Secretary of Defense for Research
14 and Engineering the recommendations made by the panel
15 under subsection (a)(1)(C) and the recommendations re-
16 fashioned by the panel under subparagraph (B) of this
17 paragraph.”;

18 (3) by redesignating subsections (e) and (f) as
19 subsection (f) and (g), respectively; and

20 (4) by inserting after subsection (d) the fol-
21 lowing new subsection (e):

22 “(e) INTERPRETATION OF PROVISIONS OF LAW.—(1)
23 The Under Secretary of Defense for Research and Engi-
24 neering, acting under the guidance of the Secretary, shall
25 issue regulations regarding the meaning, scope, implemen-

1 tation, and applicability of any provision of a statute relat-
 2 ing to a science and technology reinvention laboratory.

3 “(2) In interpreting or defining under paragraph (1),
 4 the Under Secretary shall, to the degree practicable, em-
 5 phasize providing the maximum operational flexibility to
 6 the directors of the science and technology reinvention lab-
 7 oratories to discharge the missions of their laboratories.

8 “(3) In interpreting or defining under paragraph (1),
 9 the Under Secretary shall seek recommendations from the
 10 panel described in subsection (b)(4).”.

11 (b) TECHNICAL CORRECTIONS.—(1) Subsections (a),
 12 (c)(1)(C), and (d)(2) of such section are amended by strik-
 13 ing “Assistant Secretary” each place it appears and in-
 14 serting “Under Secretary”.

15 (2) Subparagraph (C) of section 342(b)(3) of the Na-
 16 tional Defense Authorization Act for Fiscal Year 1995
 17 (Public Law 103–337), as amended by section 211(f) of
 18 the National Defense Authorization Act for Fiscal Year
 19 2017 (Public Law 114–328), as redesignated by sub-
 20 section (a)(3) of this section, is amended by striking “As-
 21 sistant Secretary” and inserting “Under Secretary”.

22 **SEC. 214. PRIZES FOR ADVANCED TECHNOLOGY ACHIEVE-**
 23 **MENTS.**

24 Section 2374a of title 10, United States Code, is
 25 amended—

1 (1) in subsection (a), by striking “in recognition
2 of” and inserting “and other types of prizes that the
3 Secretary determines are appropriate to recognize”;

4 (2) in subsection (e), by striking “cash” both
5 places it appears;

6 (3) in subsection (e)—

7 (A) by striking “and from State and local
8 governments” and inserting “, from State and
9 local governments, and from the private sec-
10 tor”; and

11 (B) by adding at the end the following:
12 “The Secretary may not give any special con-
13 sideration to any private sector entity in return
14 for a donation.”; and

15 (4) by amending subsection (f) to read as fol-
16 lows:

17 “(f) USE OF PRIZE AUTHORITY.—Use of prize au-
18 thority under this section shall be considered the use of
19 competitive procedures for the purposes of section 2304
20 of this title.”.

1 **SEC. 215. EXPANSION OF DEFINITION OF COMPETITIVE**
2 **PROCEDURES TO INCLUDE COMPETITIVE SE-**
3 **LECTION FOR AWARD OF RESEARCH AND DE-**
4 **VELOPMENT PROPOSALS.**

5 Section 2302(2)(B) of title 10, United States Code,
6 is amended by striking “basic research” and inserting “re-
7 search and development”.

8 **SEC. 216. INCLUSION OF MODELING AND SIMULATION IN**
9 **TEST AND EVALUATION ACTIVITIES FOR PUR-**
10 **POSES OF PLANNING AND BUDGET CERTIFI-**
11 **CATION.**

12 Section 196 of title 10, United States Code, is
13 amended—

14 (1) in subsection (d)(1), in the first sentence,
15 by inserting “, including modeling and simulation
16 capabilities” after “and resources”; and

17 (2) in subsection (e)(1), by inserting “, includ-
18 ing modeling and simulation activities,” after “eval-
19 uation activities”.

20 **SEC. 217. DIFFERENTIATION OF RESEARCH AND DEVELOP-**
21 **MENT ACTIVITIES FROM SERVICE ACTIVI-**
22 **TIES.**

23 (a) IN GENERAL.—For the purposes of activities and
24 programs carried out by the Department of Defense, re-
25 search and development activities, including activities
26 under the Small Business Innovation Research Program

1 (SBIR) or the Small Business Technology Transfer Pro-
2 gram (STTR), shall be considered as separate and distinct
3 from contract service activities.

4 (b) GUIDANCE.—Not later than 180 days after the
5 date of the enactment of this Act, the Secretary of Defense
6 shall issue updated guidance to carry out this section.

7 (c) DEFINITIONS.—

8 (1) IN GENERAL.—In this section:

9 (A) The term “advisory and assistance
10 service” has the meaning given such term in
11 section 1105(g)(2) of title 31, United States
12 Code.

13 (B) The term “research and development
14 activities”—

15 (i) means—

16 (I) creative work undertaken on
17 a systematic basis in order to increase
18 the stock of knowledge, including the
19 knowledge of man, culture, and soci-
20 ety; and

21 (II) the use of the stock of
22 knowledge described in subparagraph
23 (A) to devise new applications; and

1 (ii) includes activities described in sec-
2 tion 9 of the Small Business Act (15
3 U.S.C. 638).

4 (C) The term “contract service activities”
5 has the meaning given the term “contract serv-
6 ices” in section 2330(c) of title 10, United
7 States Code.

8 (D) The terms “Small Business Innovation
9 Research Program” and “Small Business Tech-
10 nology Transfer Program” have the meanings
11 given such terms in section 9(e) of the Small
12 Business Act (15 U.S.C. 638(e)).

13 (2) DEFINITION OF SERVICES FOR PURPOSES
14 OF REQUIREMENTS RELATING TO TRACKING OF
15 PURCHASES OF SERVICES.—Section 2330a(h) of title
16 10, United States Code, is amended by inserting
17 after paragraph (4) the following new paragraph:

18 “(5) SERVICES.—The term ‘services’ has the
19 meaning given the term ‘contract services’ in section
20 2330(c) of this title.”.

21 **SEC. 218. DESIGNATION OF ADDITIONAL DEPARTMENT OF**
22 **DEFENSE SCIENCE AND TECHNOLOGY RE-**
23 **INVENTION LABORATORIES.**

24 Section 1105(a) of the National Defense Authoriza-
25 tion Act for Fiscal Year 2010 (Public Law 111–84; 10

1 U.S.C. 2358 note) is amended by adding at the end the
2 following new paragraphs:

3 “(20) The Air Force Office of Scientific Re-
4 search.

5 “(21) The 711th Human Performance Wing of
6 the Air Force Research Laboratory.

7 “(22) The Air Vehicles Directorate of the Air
8 Force Research Laboratory.

9 “(23) The Directed Energy Directorate of the
10 Air Force Research Laboratory.

11 “(24) The Information Directorate of the Air
12 Force Research Laboratory.

13 “(25) The Materials and Manufacturing Direc-
14 torate of the Air Force Research Laboratory.

15 “(26) The Munitions Directorate of the Air
16 Force Research Laboratory.

17 “(27) The Propulsion Directorate of the Air
18 Force Research Laboratory.

19 “(28) The Sensors Directorate of the Air Force
20 Research Laboratory.

21 “(29) The Space Vehicles Directorate of the Air
22 Force Research Laboratory.

23 “(30) The Naval Facilities Engineering and Ex-
24 peditionary Warfare Center.”.

1 **SEC. 219. DEPARTMENT OF DEFENSE DIRECTED ENERGY**
2 **WEAPON SYSTEM PROTOTYPING AND DEM-**
3 **ONSTRATION PROGRAM.**

4 (a) **ESTABLISHMENT.**—The Secretary of Defense,
5 acting through the Under Secretary, shall establish a pro-
6 gram on the prototyping and demonstration of directed
7 energy weapon systems to build and maintain the military
8 superiority of the United States by—

9 (1) accelerating the fielding of directed energy
10 weapon systems that would help counter techno-
11 logical advantages of potential adversaries of the
12 United States; and

13 (2) supporting the military departments, the
14 combatant commanders, the United States Special
15 Operations Command, and the Missile Defense
16 Agency in developing prototypes and demonstrating
17 operational utility of high energy lasers and high
18 powered microwave weapon systems.

19 (b) **GUIDELINES.**—

20 (1) **IN GENERAL.**—Not later than 180 days
21 after the date of the enactment of this Act, the
22 Under Secretary shall issue guidelines for the oper-
23 ation of the program established under subsection
24 (a), including—

1 (A) criteria for an application for funding
2 by a military department, defense agency, or a
3 combatant command;

4 (B) the priorities, if any, to be provided to
5 field directed energy weapon system tech-
6 nologies developed by research funding of the
7 Department or industry; and

8 (C) criteria for evaluation of an application
9 for funding or changes to policies or acquisition
10 and business practices by such a department,
11 agency, or command for purposes of improving
12 the effectiveness and efficiency of the Program.

13 (2) LIMITATION.—Funding for a military de-
14 partment, defense agency, or combatant command
15 under the program established under subsection (a)
16 may only be available for advanced technology devel-
17 opment, prototyping, and demonstrations in which
18 the Department of Defense maintains management
19 of the technical baseline and a primary emphasis on
20 technology transition and evaluating military utility
21 to enhance the likelihood that the particular directed
22 energy weapon system will meet the Department end
23 user's need.

24 (c) APPLICATIONS FOR FUNDING.—

1 (1) IN GENERAL.—Not less frequently than
2 once each year, the Under Secretary shall solicit
3 from the heads of the military departments, the de-
4 fense agencies, and the combatant commands appli-
5 cations for funding under the program established
6 under subsection (a) to be used to enter into con-
7 tracts, cooperative agreements, or other transaction
8 agreements entered into pursuant to section 2371b
9 of title 10, United States Code, with appropriate en-
10 tities for the fielding or commercialization of tech-
11 nologies.

12 (2) TREATMENT PURSUANT TO CERTAIN CON-
13 GRESSIONAL RULES.—Nothing in this section shall
14 be construed to require any official of the Depart-
15 ment of Defense to provide funding under the pro-
16 gram to any congressional earmark as defined pur-
17 suant to clause 9 of rule XXI of the Rules of the
18 House of Representatives or any congressionally di-
19 rected spending item as defined pursuant to para-
20 graph 5 of rule XLIV of the Standing Rules of the
21 Senate.

22 (d) FUNDING.—

23 (1) IN GENERAL.—Except as provided in para-
24 graph (2) and subject to the availability of appro-
25 priations for such purpose, of the funds authorized

1 to be appropriated by this Act or otherwise made
2 available for fiscal year 2018 for research, develop-
3 ment, test, and evaluation, defense-wide,
4 \$200,000,000 shall be available to the Under Sec-
5 retary to allocate to the military departments, the
6 defense agencies, and the combatant commands to
7 carry out the program established under subsection
8 (a).

9 (2) LIMITATION.—Not more than half of the
10 amounts made available under paragraph (1) may be
11 allocated as described in such paragraph until the
12 Under Secretary—

13 (A) develops the strategic plan required by
14 section 219(a)(2)(A) of the National Defense
15 Authorization Act for Fiscal Year 2017 (Public
16 Law 114–328; 10 U.S.C. 2431 note); and

17 (B) submits such strategic plan to the con-
18 gressional defense committees.

19 (e) DESIGNATION OF UNDER SECRETARY OF DE-
20 FENSE FOR RESEARCH AND ENGINEERING AS THE OFFI-
21 CIAL WITH PRINCIPAL RESPONSIBILITY FOR DEVELOP-
22 MENT AND DEMONSTRATION OF DIRECTED ENERGY
23 WEAPONS.—Section 219(a)(1) of the National Defense
24 Authorization Act for Fiscal Year 2017 (Public Law 114–
25 328; 10 U.S.C. 2431 note) is amended by striking “Not

1 later” and all that follows through “of Defense” and in-
2 serting “The Under Secretary of Defense for Research
3 and Engineering shall serve”.

4 (f) UNDER SECRETARY DEFINED.—In this section,
5 the term “Under Secretary” means the Under Secretary
6 of Defense for Research and Engineering in the Under
7 Secretary’s capacity as the official with principal responsi-
8 bility for the development and demonstration of directed
9 energy weapons pursuant to section 219(a)(1) of such Act
10 (Public Law 114–328; 10 U.S.C. 2431 note), as amended
11 by subsection (e).

12 **SEC. 220. AUTHORITY FOR THE UNDER SECRETARY OF DE-**
13 **FENSE FOR RESEARCH AND ENGINEERING**
14 **TO PROMOTE INNOVATION IN THE DEPART-**
15 **MENT OF DEFENSE.**

16 The Secretary of Defense shall establish procedures
17 under which the Under Secretary of Defense for Research
18 and Engineering may request a time-limited review and
19 if necessary require coordination on and modification of
20 proposed directives, rules, regulations, and other policies
21 that in Under Secretary’s view would adversely affect the
22 ability of the innovation, research, and engineering enter-
23 prise of the Department of Defense to effectively and effi-
24 ciently execute its missions, including policies and prac-
25 tices concerning the following:

- 1 (1) Personnel and talent management.
- 2 (2) Financial management and budgeting.
- 3 (3) Infrastructure, installations, and military
- 4 construction.
- 5 (4) Acquisition.
- 6 (5) Management.
- 7 (6) Such other areas as the Secretary may des-
- 8 ignate.

9 **SEC. 221. LIMITATION ON AVAILABILITY OF FUNDS FOR F-**
10 **35 JOINT STRIKE FIGHTER FOLLOW-ON MOD-**
11 **ERNIZATION.**

12 None of the funds authorized to be appropriated by
13 this Act or otherwise made available for fiscal year 2018
14 or any other fiscal year for the Department of Defense
15 may be obligated for F-35 Joint Strike Fighter Follow-
16 On Modernization until the Secretary of Defense provides
17 the final report required under section 224(d) of the Na-
18 tional Defense Authorization Act for Fiscal Year 2017
19 (Public Law 114-328).

20 **SEC. 222. IMPROVEMENT OF UPDATE PROCESS FOR**
21 **POPULATING MISSION DATA FILES USED IN**
22 **ADVANCED COMBAT AIRCRAFT.**

23 (a) IMPROVEMENTS TO UPDATE PROCESS.—

- 24 (1) IN GENERAL.—The Secretary of Defense
- 25 shall take such actions as may be necessary to im-

1 prove the process used to update the mission data
2 files used in advanced combat aircraft of the United
3 States so that such updates can occur more quickly.

4 (2) REQUIREMENTS.—In improving the process
5 under paragraph (1), the Secretary shall ensure the
6 following:

7 (A) That under such process, updates to
8 the mission data files are developed, operation-
9 ally tested, and loaded onto systems of ad-
10 vanced combat aircraft while in theaters of op-
11 eration in a time-sensitive manner to allow for
12 the distinguishing of threats, including distin-
13 guishing friends from foes, loading and delivery
14 of weapon suites, and coordination with allied
15 and coalition armed forces.

16 (B) When updates are made to the mission
17 data files, all areas of responsibility (AoRs) are
18 included.

19 (C) The process includes best practices re-
20 lating to such mission data files that have been
21 identified by industry and allies of the United
22 States.

23 (D) The process improves the exchange of
24 information between weapons systems of the
25 United States and weapon systems of allies and

1 partners of the United States, with respect to
2 such mission data files.

3 (b) CONSULTATION AND PILOT PROGRAMS.—In car-
4 rying out subsection (a), the Secretary shall consult the
5 innovation organizations resident in the Department of
6 Defense and may consider carrying out a pilot program
7 under another provision of this Act.

8 (c) REPORT.—Not later than March 31, 2018, the
9 Secretary shall submit to the congressional defense com-
10 mittees a report on the actions taken by the Secretary
11 under subsection (a)(1) and how the process described in
12 such subsection has been improved.

13 **Subtitle C—Reports and Other** 14 **Matters**

15 **SEC. 231. COMPETITIVE ACQUISITION PLAN FOR LOW** 16 **PROBABILITY OF DETECTION DATA LINK** 17 **NETWORKS.**

18 (a) PLAN REQUIRED.—The Under Secretary of De-
19 fense for Acquisition, Technology, and Logistics and the
20 Vice Chairman of the Joint Chiefs of Staff shall jointly,
21 in consultation with the Secretary of the Navy and the
22 Secretary of the Air Force, develop a plan to procure a
23 secure, low probability of detection data link network ca-
24 pability with the ability to effectively operate in hostile
25 jamming environments while preserving the low observable

1 characteristics of the relevant platforms, between existing
2 and planned—

3 (1) fifth-generation combat aircraft;

4 (2) fifth-generation and fourth-generation com-
5 bat aircraft;

6 (3) fifth-generation and fourth-generation com-
7 bat aircraft and appropriate support aircraft and
8 other network nodes for command, control, commu-
9 nications, intelligence, surveillance, and reconnais-
10 sance purposes; and

11 (4) fifth-generation and fourth-generation com-
12 bat aircraft and their associated network-enabled
13 precision weapons.

14 (b) ADDITIONAL PLAN REQUIREMENTS.—The plan
15 required by subsection (a) shall include—

16 (1) nonproprietary and open systems ap-
17 proaches compatible with the Rapid Capabilities Of-
18 fice Open Mission Systems initiative of the Air
19 Force and the Future Airborne Capability Environ-
20 ment initiative of the Navy;

21 (2) a competitive acquisition process, to include
22 comparative flight demonstrations in realistic air-
23 borne environments; and

1 (3) low risk and affordable solutions with mini-
2 mal impact or changes to existing host platforms,
3 and minimal overall integration costs.

4 (c) BRIEFING.—Not later than February 15, 2018,
5 the Under Secretary and the Vice Chairman shall provide
6 to the congressional defense committees written docu-
7 mentation and briefing on the plan developed under sub-
8 section (a).

9 (d) LIMITATION.—Of the funds authorized to be ap-
10 propriated by this Act or otherwise made available for fis-
11 cal year 2018 for operations and maintenance for the Of-
12 fice of the Secretary of Defense and the Office of the
13 Chairman of the Joint Chiefs of Staff, not more than 85
14 percent may be obligated or expended until a period of
15 15 days has elapsed following the date on which the Under
16 Secretary and Vice Chairman submits to the congressional
17 defense committees the plan required by subsection (a).

18 **SEC. 232. CLARIFICATION OF SELECTION DATES FOR PILOT**
19 **PROGRAM FOR THE ENHANCEMENT OF THE**
20 **RESEARCH, DEVELOPMENT, TEST, AND EVAL-**
21 **UATION CENTERS OF THE DEPARTMENT OF**
22 **DEFENSE.**

23 Section 233 of the National Defense Authorization
24 Act for Fiscal Year 2017 (Public Law 114–328) is amend-
25 ed—

1 (1) in subsection (b)(2), by striking “the enact-
2 ment of this Act” both places it appears and insert-
3 ing “such submittal”; and

4 (2) in subsection (c)(1), by striking “propose
5 and implement” and inserting “submit to the Assist-
6 ant Secretary concerned a proposal on, and imple-
7 ment,”.

8 **SEC. 233. REQUIREMENT FOR A PLAN TO BUILD A PROTO-**
9 **TYPE FOR A NEW GROUND COMBAT VEHICLE**
10 **FOR THE ARMY.**

11 (a) IN GENERAL.—Not later than 90 days after the
12 date of the enactment of this Act, the Secretary of the
13 Army shall submit to the congressional defense commit-
14 tees a plan to build a prototype for a new ground combat
15 vehicle for the Army.

16 (b) CONTENTS.—The plan required by subsection (a)
17 shall include the following:

18 (1) A description of how the Secretary intends
19 to exploit the latest enabling component technologies
20 that have the potential to dramatically change basic
21 combat vehicle design and improve lethality, protec-
22 tion, mobility, range, and sustainment, including an
23 analysis of capabilities of the most advanced foreign
24 ground combat vehicles and whether any have char-
25 acteristics that should inform the development of the

1 Army's prototype vehicle, including whether any
2 United States allies or partners have advanced capa-
3 bilities that could be directly incorporated in the pro-
4 totype.

5 (2) The schedule, cost, key milestones, and
6 leadership plan to rapidly design and build the pro-
7 totype ground combat vehicle.

8 **SEC. 234. PLAN FOR SUCCESSFULLY FIELDING THE INTE-**
9 **GRATED AIR AND MISSILE DEFENSE BATTLE**
10 **COMMAND SYSTEM.**

11 (a) **PLAN REQUIRED.**—Not later than 180 days after
12 the date of the enactment of this Act, the Secretary of
13 the Army shall submit to the congressional defense com-
14 mittees a plan to successfully field a suitable, survivable,
15 and effective Integrated Air and Missile Defense Battle
16 Command System program.

17 (b) **LIMITATION.**—None of the funds authorized to
18 be appropriated by this Act for research, development,
19 test, and evaluation may be obligated by the Secretary of
20 the Army for the Army Integrated Air and Missile Defense
21 and the Integrated Air and Missile Defense Battle Com-
22 mand System until the date on which the plan is sub-
23 mitted under subsection (a).

1 **SEC. 235. SENSE OF CONGRESS ON HYPERSONIC WEAPONS.**

2 (a) FINDINGS.—Congress makes the following find-
3 ings:

4 (1) The United States has gained a thorough
5 understanding of hypersonic technology over the
6 course of seven decades of experimentation.

7 (2) The requirements for technological break-
8 throughs in hypersonics have largely been estab-
9 lished, allowing pursuit of hypersonic glide weapons
10 without a prohibitive budget effect.

11 (3) The Department of Defense has several
12 hypersonic research and development efforts under-
13 way, including conventional prompt global strike
14 (CPS) weapons system, the Hypersonic Air-Breath-
15 ing Weapon Concept, and the Tactical Boost Glide
16 program.

17 (4) In testimony before the Committee on
18 Armed Services of the Senate on April 4, 2017, the
19 Commander of United States Strategic Command,
20 General John Hyten, identified the conventional
21 prompt global strike weapons system as the “leading
22 technology maturation effort in the realm of
23 hypersonics” and stated that his command sees “an
24 operational need for a CPS capabilities by the mid-
25 2020s.”.

1 (5) Hypersonic weapons present a radical
2 change in warfare, because they can circumvent
3 many of the challenges associated with contested
4 warfare and integrated air defenses.

5 (6) Hypersonic weapons may provide solutions
6 to difficult problem sets, such as anti-access area de-
7 nial schemes, deeply buried or hardened target sets,
8 and mobile high value target sets.

9 (7) Other countries are aggressively pursuing
10 hypersonic weapons at an alarming rate that threat-
11 en to outpace the United States if the United States
12 does not more aggressively pursue development of
13 hypersonic weapons.

14 (8) The Air Force has a \$10,000,000 require-
15 ment on the Unfunded Priority List for hypersonic
16 prototyping.

17 (b) SENSE OF CONGRESS.—It is the sense of Con-
18 gress that—

19 (1) the Department of Defense should expedite
20 testing, evaluation, and acquisition of hypersonic
21 weapon systems to meet the stated needs of the
22 warfighter;

23 (2) testing of such weapon systems should in-
24 clude flight testing, ground based testing, and un-
25 derwater launch testing;

1 (3) the Department of Defense should adhere
2 to the requirement in section 1688 of the National
3 Defense Authorization Act for Fiscal Year 2017
4 (Public Law 114–328) to proceed to a Milestone A
5 decision on the conventional prompt global strike
6 weapons system not later than September 30, 2020,
7 or the date that is 240 days after the successful
8 completion of intermediate range flight 2 of such
9 system;

10 (4) the United States cannot afford to lose its
11 advantage over foreign countries in developing
12 hypersonic weapons; and

13 (5) the Department of Defense should focus on
14 the next generation of weapon systems, including
15 third offset technologies, such as hypersonics.

1 **TITLE XLII—RESEARCH, DEVEL-**
 2 **OPMENT, TEST, AND EVALUA-**
 3 **TION**

4 **SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUA-**
 5 **TION.**

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY				
BASIC RESEARCH				
1	0601101A	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	12,010	12,010
2	0601102A	DEFENSE RESEARCH SCIENCES	263,590	273,590
		Basic research program increase		[10,000]
3	0601103A	UNIVERSITY RESEARCH INITIATIVES	67,027	67,027
4	0601104A	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	87,395	92,395
		Basic research program increase		[5,000]
235	111111	UNDISTRIBUTED BASIC RESEARCH	0	10,000
		Modernizing Army capabilities and Third Offset		[10,000]
		SUBTOTAL BASIC RESEARCH	430,022	455,022
APPLIED RESEARCH				
5	0602105A	MATERIALS TECHNOLOGY	29,640	39,640
		Strategic materials		[10,000]
6	0602120A	SENSORS AND ELECTRONIC SURVIVABILITY	35,730	35,730
7	0602122A	TRACTOR HIP	8,627	8,627
8	0602211A	AVIATION TECHNOLOGY	66,086	61,086
		General program reduction		[-5,000]
9	0602270A	ELECTRONIC WARFARE TECHNOLOGY	27,144	27,144
10	0602303A	MISSILE TECHNOLOGY	43,742	43,742
11	0602307A	ADVANCED WEAPONS TECHNOLOGY	22,785	22,785
12	0602308A	ADVANCED CONCEPTS AND SIMULATION	28,650	28,650
13	0602601A	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	67,232	67,232
14	0602618A	BALLISTICS TECHNOLOGY	85,309	85,309
15	0602622A	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	4,004	4,004

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
16	0602623A	JOINT SERVICE SMALL ARMS PROGRAM	5,615	5,615
17	0602624A	WEAPONS AND MUNITIONS TECHNOLOGY	41,455	41,455
18	0602705A	ELECTRONICS AND ELECTRONIC DEVICES	58,352	58,352
19	0602709A	NIGHT VISION TECHNOLOGY	34,723	34,723
20	0602712A	COUNTERMINE SYSTEMS	26,190	26,190
21	0602716A	HUMAN FACTORS ENGINEERING TECHNOLOGY	24,127	24,127
22	0602720A	ENVIRONMENTAL QUALITY TECHNOLOGY	21,678	21,678
23	0602782A	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	33,123	38,123
		<i>Position, navigation, and timing technologies</i>		[5,000]
24	0602783A	COMPUTER AND SOFTWARE TECHNOLOGY	14,041	14,041
25	0602784A	MILITARY ENGINEERING TECHNOLOGY	67,720	67,720
26	0602785A	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	20,216	20,216
27	0602786A	WARFIGHTER TECHNOLOGY	39,559	39,559
28	0602787A	MEDICAL TECHNOLOGY	83,434	83,434
236	222222	UNDISTRIBUTED APPLIED RESEARCH	0	15,000
		<i>Modernizing Army capabilities and Third Offset</i>		[15,000]
		SUBTOTAL APPLIED RESEARCH	889,182	914,182
		ADVANCED TECHNOLOGY DEVELOPMENT		
29	0603001A	WARFIGHTER ADVANCED TECHNOLOGY	44,863	44,863
30	0603002A	MEDICAL ADVANCED TECHNOLOGY	67,780	67,780
31	0603003A	AVIATION ADVANCED TECHNOLOGY	160,746	140,746
		<i>Platform design & structure systems</i>		[-20,000]
32	0603004A	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	84,079	84,079
33	0603005A	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	125,537	125,537
34	0603006A	SPACE APPLICATION ADVANCED TECHNOLOGY	12,231	12,231
35	0603007A	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	6,466	6,466
36	0603009A	TRACTOR HIKE	28,552	28,552
37	0603015A	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	16,434	16,434
39	0603125A	COMBATING TERRORISM—TECHNOLOGY DEVELOPMENT	26,903	26,903
40	0603130A	TRACTOR NAIL	4,880	4,880
41	0603131A	TRACTOR EGGS	4,326	4,326
42	0603270A	ELECTRONIC WARFARE TECHNOLOGY	31,296	31,296
43	0603313A	MISSILE AND ROCKET ADVANCED TECHNOLOGY	62,850	62,850
44	0603322A	TRACTOR CAGE	12,323	12,323
45	0603461A	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM	182,331	222,331
		<i>Program increase</i>		[40,000]
46	0603606A	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY ..	17,948	17,948
47	0603607A	JOINT SERVICE SMALL ARMS PROGRAM	5,796	5,796
48	0603710A	NIGHT VISION ADVANCED TECHNOLOGY	47,135	47,135
49	0603728A	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	10,421	10,421
50	0603734A	MILITARY ENGINEERING ADVANCED TECHNOLOGY	32,448	27,448
		<i>Combat engineering system</i>		[-5,000]
51	0603772A	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	52,206	52,206
52	0603794A	C3 ADVANCED TECHNOLOGY	33,426	33,426
237	333333	UNDISTRIBUTED ADVANCED TECHNOLOGY DEVELOPMENT	0	20,000
		<i>Modernizing Army capabilities and Third Offset</i>		[20,000]
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT ..	1,070,977	1,105,977
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
53	0603305A	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	9,634	9,634
55	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	33,949	33,949
56	0603619A	LANDMINE WARFARE AND BARRIER—ADV DEV	72,909	72,909
57	0603627A	SMOKE, OBSCURANT AND TARGET DEFEATING SYS—ADV DEV ..	7,135	7,135
58	0603639A	TANK AND MEDIUM CALIBER AMMUNITION	41,452	65,902
		<i>UFR: Munitions and CM development</i>		[24,450]
59	0603645A	ARMORED SYSTEM MODERNIZATION—ADV DEV	32,739	102,739
		<i>UFR: Supports development of critical ground combat vehicle technologies.</i>		[70,000]
60	0603747A	SOLDIER SUPPORT AND SURVIVABILITY	10,157	10,157
61	0603766A	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM—ADV DEV	27,733	29,353
		<i>UFR: Funds of the Advanced Miniaturized Data Acquisition System-Next.</i>		[1,620]
62	0603774A	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	12,347	12,347
63	0603779A	ENVIRONMENTAL QUALITY TECHNOLOGY—DEM/VAL	10,456	10,456
64	0603790A	NATO RESEARCH AND DEVELOPMENT	2,588	2,588
65	0603801A	AVIATION—ADV DEV	14,055	14,055
66	0603804A	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV	35,333	35,333
67	0603807A	MEDICAL SYSTEMS—ADV DEV	33,491	33,491
68	0603827A	SOLDIER SYSTEMS—ADVANCED DEVELOPMENT	20,239	20,239
69	0604017A	ROBOTICS DEVELOPMENT	39,608	44,608
		<i>UFR: Accelerate armed Robotic Wingman development</i>		[5,000]
70	0604100A	ANALYSIS OF ALTERNATIVES	9,921	9,921
71	0604114A	LOWER TIER AIR MISSILE DEFENSE (LTAMD) SENSOR	76,728	76,728
72	0604115A	TECHNOLOGY MATURATION INITIATIVES	115,221	115,221

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
73	0604117A	MANEUVER—SHORT RANGE AIR DEFENSE (M-SHORAD)	20,000	20,000
74	0604118A	TRACTOR BEAM	10,400	10,400
75	0604120A	ASSURED POSITIONING, NAVIGATION AND TIMING (PNT)	164,967	165,093
		UFR: Fully funds Anti-Jam Antenna development and testing		[126]
76	0604121A	SYNTHETIC TRAINING ENVIRONMENT REFINEMENT & PROTOTYPING.	1,600	1,600
77	0604319A	INDIRECT FIRE PROTECTION CAPABILITY INCREMENT 2—INTERCEPT (IFPC2).	11,303	11,303
78	0305251A	CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT	56,492	56,492
79	1206308A	ARMY SPACE SYSTEMS INTEGRATION	20,432	20,432
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.	890,889	992,085
		SYSTEM DEVELOPMENT & DEMONSTRATION		
80	0604201A	AIRCRAFT AVIONICS	30,153	42,153
		UFR: Funds implementation of Assured Position, Navigation, and Timing (A-PNT).		[12,000]
81	0604270A	ELECTRONIC WARFARE DEVELOPMENT	71,671	71,671
83	0604290A	MID-TIER NETWORKING VEHICULAR RADIO (MNV)	10,589	10,589
84	0604321A	ALL SOURCE ANALYSIS SYSTEM	4,774	4,774
85	0604328A	TRACTOR CAGE	17,252	30,252
		UFR: Provides the Army's Cyber Mission Force (CMF) with classified cyber tools.		[13,000]
86	0604601A	INFANTRY SUPPORT WEAPONS	87,643	93,643
		UFR: Acceleration of qualification of XM914 and XM913		[6,000]
87	0604604A	MEDIUM TACTICAL VEHICLES	6,039	6,039
88	0604611A	JAVELIN	21,095	21,095
89	0604622A	FAMILY OF HEAVY TACTICAL VEHICLES	10,507	10,507
90	0604633A	AIR TRAFFIC CONTROL	3,536	3,536
92	0604642A	LIGHT TACTICAL WHEELED VEHICLES	7,000	7,000
93	0604645A	ARMORED SYSTEMS MODERNIZATION (ASM)—ENG DEV	36,242	36,242
94	0604710A	NIGHT VISION SYSTEMS—ENG DEV	108,504	126,004
		UFR: Develop Thermal Weapon Sights		[17,500]
95	0604713A	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	3,702	3,702
96	0604715A	NON-SYSTEM TRAINING DEVICES—ENG DEV	43,575	43,575
97	0604741A	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—ENG DEV.	28,726	28,726
98	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	18,562	18,562
99	0604746A	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	8,344	8,344
100	0604760A	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS)—ENG DEV	11,270	11,270
101	0604768A	BRILLIANT ANTI-ARMOR SUBUNITION (BAT)	10,000	10,000
102	0604780A	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	18,566	18,566
103	0604798A	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION	145,360	145,360
104	0604802A	WEAPONS AND MUNITIONS—ENG DEV	145,232	161,410
		UFR: 105mm Anti-Personnel / Wall Breach Ammunition		[8,000]
		UFR: Devops the 40mm Low Velocity M320 Door Breaching cartridge		[4,178]
		UFR: Testing for the Anti-Tank Confined Space Tandem Warhead		[4,000]
105	0604804A	LOGISTICS AND ENGINEER EQUIPMENT—ENG DEV	90,965	90,965
106	0604805A	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS—ENG DEV	9,910	9,910
107	0604807A	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT—ENG DEV.	39,238	39,238
108	0604808A	LANDMINE WARFARE/BARRIER—ENG DEV	34,684	34,684
109	0604818A	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE.	164,409	164,409
110	0604820A	RADAR DEVELOPMENT	32,968	32,968
111	0604822A	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	49,554	49,554
112	0604823A	FIREFINDER	45,605	45,605
113	0604827A	SOLDIER SYSTEMS—WARRIOR DEM/VAL	16,127	16,127
114	0604852A	SUITE OF SURVIVABILITY ENHANCEMENT SYSTEMS—EMD	98,600	133,600
		UFR: Expands installation of Active Protection Systems		[25,000]
		UFR: Modular Active Protection System		[10,000]
115	0604854A	ARTILLERY SYSTEMS—EMD	1,972	3,972
		UFR: Funds research for 55 cal tube		[2,000]
116	0605013A	INFORMATION TECHNOLOGY DEVELOPMENT	81,776	81,776
117	0605018A	INTEGRATED PERSONNEL AND PAY SYSTEM—ARMY (IPPS-A)	172,361	172,361
118	0605028A	ARMORED MULTI-PURPOSE VEHICLE (AMPV)	199,778	199,778
119	0605029A	INTEGRATED GROUND SECURITY SURVEILLANCE RESPONSE CAPABILITY (IGSSR-C).	4,418	4,418
120	0605030A	JOINT TACTICAL NETWORK CENTER (JTNC)	15,877	15,877
121	0605031A	JOINT TACTICAL NETWORK (JTN)	44,150	44,150
122	0605032A	TRACTOR TIRE	34,670	113,570
		UFR: Develops Offensive Cyber Operations capabilities		[78,900]
123	0605033A	GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM—EX-PEDITIONARY (GBOSS-E).	5,207	5,207
124	0605034A	TACTICAL SECURITY SYSTEM (TSS)	4,727	4,727
125	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCM)	105,778	105,778
126	0605036A	COMBATING WEAPONS OF MASS DESTRUCTION (CWMD)	6,927	6,927
127	0605037A	EVIDENCE COLLECTION AND DETAINEE PROCESSING	214	214

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
128	0605038A	NUCLEAR BIOLOGICAL CHEMICAL RECONNAISSANCE VEHICLE (NBCRV) SENSOR SUITE.	16,125	16,125
129	0605041A	DEFENSIVE CYBER TOOL DEVELOPMENT	55,165	55,165
130	0605042A	TACTICAL NETWORK RADIO SYSTEMS (LOW-TIER)	20,076	20,076
131	0605047A	CONTRACT WRITING SYSTEM	20,322	22
		Consolidate requirements		[-20,300]
132	0605049A	MISSILE WARNING SYSTEM MODERNIZATION (MWSM)	55,810	210,810
		UFR: Supports Directed Requirement for Limited Interim Missile Warning System to detect Enemy (MANPADS).		[155,000]
133	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT	30,879	30,879
134	0605052A	INDIRECT FIRE PROTECTION CAPABILITY INC 2—BLOCK 1	175,069	175,069
135	0605053A	GROUND ROBOTICS	70,760	70,760
137	0605380A	AMF JOINT TACTICAL RADIO SYSTEM (JTTRS)	8,965	8,965
138	0605450A	JOINT AIR-TO-GROUND MISSILE (JAGM)	34,626	34,626
140	0605457A	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AAMD)	336,420	136,420
		Early to need		[-200,000]
143	0605766A	NATIONAL CAPABILITIES INTEGRATION (MIP)	6,882	9,382
		UFR: Funds development for Remote Ground Terminal		[2,500]
144	0605812A	JOINT LIGHT TACTICAL VEHICLE (JLTV) ENGINEERING AND MANUFACTURING DEVELOPMENT PH.	23,467	23,467
145	0605830A	AVIATION GROUND SUPPORT EQUIPMENT	6,930	6,930
146	0210609A	PALADIN INTEGRATED MANAGEMENT (PIM)	6,112	6,112
147	0303032A	TROJAN—RH12	4,431	4,431
150	0304270A	ELECTRONIC WARFARE DEVELOPMENT	14,616	14,616
151	1205117A	TRACTOR BEARS	17,928	17,928
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	3,012,840	3,130,618
		RDT&E MANAGEMENT SUPPORT		
152	0604256A	THREAT SIMULATOR DEVELOPMENT	22,862	22,862
153	0604258A	TARGET SYSTEMS DEVELOPMENT	13,902	13,902
154	0604759A	MAJOR T&E INVESTMENT	102,901	102,901
155	0605103A	RAND ARROYO CENTER	20,140	20,140
156	0605301A	ARMY KWAJALEIN ATOLL	246,663	251,025
		UFR: Increases funding for facilities sustainment from 75% to 83% ..		[4,362]
157	0605326A	CONCEPTS EXPERIMENTATION PROGRAM	29,820	29,820
159	0605601A	ARMY TEST RANGES AND FACILITIES	307,588	307,588
160	0605602A	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	49,242	49,242
161	0605604A	SURVIVABILITY/LETHALITY ANALYSIS	41,843	41,843
162	0605606A	AIRCRAFT CERTIFICATION	4,804	4,804
163	0605702A	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	7,238	7,238
164	0605706A	MATERIEL SYSTEMS ANALYSIS	21,890	21,890
165	0605709A	EXPLOITATION OF FOREIGN ITEMS	12,684	12,684
166	0605712A	SUPPORT OF OPERATIONAL TESTING	51,040	51,040
167	0605716A	ARMY EVALUATION CENTER	56,246	56,246
168	0605718A	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	1,829	1,829
169	0605801A	PROGRAMWIDE ACTIVITIES	55,060	55,060
170	0605803A	TECHNICAL INFORMATION ACTIVITIES	33,934	33,934
171	0605805A	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	43,444	43,444
172	0605857A	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	5,087	5,087
173	0605898A	ARMY DIRECT REPORT HEADQUARTERS—R&D—MHA	54,679	54,679
174	0606001A	MILITARY GROUND-BASED CREW TECHNOLOGY	7,916	7,916
175	0606002A	RONALD REAGAN BALLISTIC MISSILE DEFENSE TEST SITE	61,254	61,254
176	0303260A	DEFENSE MILITARY DECEPTION INITIATIVE	1,779	1,779
		SUBTOTAL RDT&E MANAGEMENT SUPPORT	1,253,845	1,258,207
		OPERATIONAL SYSTEMS DEVELOPMENT		
178	0603778A	MLRS PRODUCT IMPROVEMENT PROGRAM	8,929	8,929
179	0603813A	TRACTOR PULL	4,014	4,014
180	0605024A	ANTI-TAMPER TECHNOLOGY SUPPORT	4,094	4,094
181	0607131A	WEAPONS AND MUNITIONS PRODUCT IMPROVEMENT PROGRAMS.	15,738	15,738
182	0607133A	TRACTOR SMOKE	4,513	4,513
183	0607134A	LONG RANGE PRECISION FIRES (LRPF)	102,014	144,745
		UFR: Accelerates LRPF procurement from FY25		[42,731]
184	0607135A	APACHE PRODUCT IMPROVEMENT PROGRAM	59,977	59,977
185	0607136A	BLACKHAWK PRODUCT IMPROVEMENT PROGRAM	34,416	34,416
186	0607137A	CHINOOK PRODUCT IMPROVEMENT PROGRAM	194,567	194,567
187	0607138A	FIXED WING PRODUCT IMPROVEMENT PROGRAM	9,981	9,981
188	0607139A	IMPROVED TURBINE ENGINE PROGRAM	204,304	204,304
189	0607140A	EMERGING TECHNOLOGIES FROM NIE	1,023	1,023
190	0607141A	LOGISTICS AUTOMATION	1,504	1,504
191	0607142A	AVIATION ROCKET SYSTEM PRODUCT IMPROVEMENT AND DEVELOPMENT.	10,064	18,064
		UFR: Qualifies M282 for use by AH-64 aircraft		[8,000]
192	0607143A	UNMANNED AIRCRAFT SYSTEM UNIVERSAL PRODUCTS	38,463	38,463
193	0607665A	FAMILY OF BIOMETRICS	6,159	6,159
194	0607865A	PATRIOT PRODUCT IMPROVEMENT	90,217	180,217

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
		UFR: Funds Terminal High Altitude Area Defense (THAAD)/Missile Segment Enhanced (MSE) integration.		[90,000]
195	0202429A	AEROSTAT JOINT PROJECT—COCOM EXERCISE	6,749	6,749
196	0203728A	JOINT AUTOMATED DEEP OPERATION COORDINATION SYSTEM (JADOCs).	33,520	33,520
197	0203735A	COMBAT VEHICLE IMPROVEMENT PROGRAMS	343,175	351,175
		Laser warning sensor suite		[4,000]
		UFR: Accelerate the development of the M8A2E1		[4,000]
198	0203740A	MANEUVER CONTROL SYSTEM	6,639	6,639
199	0203743A	155MM SELF-PROPELLED HOWITZER IMPROVEMENTS	40,784	40,784
200	0203744A	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS.	39,358	39,358
201	0203752A	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	145	145
202	0203758A	DIGITIZATION	4,803	4,803
203	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	2,723	28,723
		UFR: Supports research for the Stinger Product Improvement Program (PIP).		[26,000]
204	0203802A	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	5,000	5,000
205	0203808A	TRACTOR CARD	37,883	37,883
207	0205410A	MATERIALS HANDLING EQUIPMENT	1,582	1,582
208	0205412A	ENVIRONMENTAL QUALITY TECHNOLOGY—OPERATIONAL SYSTEM DEV.	195	195
209	0205456A	LOWER TIER AIR AND MISSILE DEFENSE (AMD) SYSTEM	78,926	78,926
210	0205778A	GUIDED MULTIPLE-LAUNCH ROCKET SYSTEM (GMLRS)	102,807	102,807
213	0303028A	SECURITY AND INTELLIGENCE ACTIVITIES	13,807	35,652
		UFR: Funds Offensive Cyber capabilities development		[21,845]
214	0303140A	INFORMATION SYSTEMS SECURITY PROGRAM	132,438	132,438
215	0303141A	GLOBAL COMBAT SUPPORT SYSTEM	64,370	64,370
217	0303150A	WWJCCS/GLOBAL COMMAND AND CONTROL SYSTEM	10,475	10,475
220	0305172A	COMBINED ADVANCED APPLICATIONS	1,100	1,100
222	0305204A	TACTICAL UNMANNED AERIAL VEHICLES	9,433	9,433
223	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS	5,080	5,080
224	0305208A	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	24,700	4,700
		Change in tactical requirements		[-20,000]
225	0305219A	MQ-1C GRAY EAGLE UAS	9,574	9,574
226	0305232A	RQ-11 UAV	2,191	2,191
227	0305233A	RQ-7 UAV	12,773	12,773
228	0307665A	BIOMETRICS ENABLED INTELLIGENCE	2,537	2,537
229	0310349A	WIN-T INCREMENT 2—INITIAL NETWORKING	4,723	723
		Change in tactical requirements		[-4,000]
230	0708045A	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	60,877	60,877
231	1203142A	SATCOM GROUND ENVIRONMENT (SPACE)	11,959	11,959
232	1208053A	JOINT TACTICAL GROUND SYSTEM	10,228	10,228
234	9999999999	CLASSIFIED PROGRAMS	7,154	7,154
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	1,877,685	2,050,261
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY.	9,425,440	9,906,352
		RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY		
		BASIC RESEARCH		
1	0601103N	UNIVERSITY RESEARCH INITIATIVES	118,130	123,130
		Program increase		[5,000]
2	0601152N	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,438	19,438
3	0601153N	DEFENSE RESEARCH SCIENCES	458,333	458,333
		SUBTOTAL BASIC RESEARCH	595,901	600,901
		APPLIED RESEARCH		
4	0602114N	POWER PROJECTION APPLIED RESEARCH	13,553	13,553
5	0602123N	FORCE PROTECTION APPLIED RESEARCH	125,557	125,557
6	0602131M	MARINE CORPS LANDING FORCE TECHNOLOGY	53,936	53,936
7	0602235N	COMMON PICTURE APPLIED RESEARCH	36,450	36,450
8	0602236N	WARFIGHTER SUSTAINMENT APPLIED RESEARCH	48,649	48,649
9	0602271N	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH	79,598	79,598
10	0602435N	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH	42,411	57,411
		Research vessel refit		[15,000]
11	0602651M	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH	6,425	6,425
12	0602747N	UNDERSEA WARFARE APPLIED RESEARCH	56,094	81,094
		Program increase		[25,000]
13	0602750N	FUTURE NAVAL CAPABILITIES APPLIED RESEARCH	156,805	156,805
14	0602782N	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH	32,733	32,733
15	0602792N	INNOVATIVE NAVAL PROTOTYPES (INP) APPLIED RESEARCH	171,146	161,146
		General decrease		[-10,000]
16	0602861N	SCIENCE AND TECHNOLOGY MANAGEMENT—ONR FIELD ACTIVITIES.	62,722	62,722
		SUBTOTAL APPLIED RESEARCH	886,079	916,079
		ADVANCED TECHNOLOGY DEVELOPMENT		

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
19	0603123N	FORCE PROTECTION ADVANCED TECHNOLOGY	26,342	26,342
20	0603271N	ELECTROMAGNETIC SYSTEMS ADVANCED TECHNOLOGY	9,360	9,360
21	0603640M	USMC ADVANCED TECHNOLOGY DEMONSTRATION (ATD)	154,407	149,407
		<i>Futures directorate</i>		[-5,000]
22	0603651M	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT	13,448	13,448
23	0603673N	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEVELOPMENT. <i>Capable manpower, enterprise and platform enablers</i>	231,772	226,772
				[-5,000]
24	0603680N	MANUFACTURING TECHNOLOGY PROGRAM	57,797	57,797
25	0603729N	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY	4,878	4,878
27	0603758N	NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS	64,889	64,889
28	0603782N	MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY. <i>Maritime intelligence, surveillance, and reconnaissance technology</i>	15,164	30,164
				[15,000]
29	0603801N	INNOVATIVE NAVAL PROTOTYPES (INP) ADVANCED TECHNOLOGY DEVELOPMENT. <i>Underwater unmanned vehicle prototypes</i>	108,285	123,285
				[15,000]
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT ...	686,342	706,342
ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES				
30	0603207N	AIR/OCEAN TACTICAL APPLICATIONS	48,365	48,365
31	0603216N	AVIATION SURVIVABILITY	5,566	5,566
33	0603251N	AIRCRAFT SYSTEMS	695	695
34	0603254N	ASW SYSTEMS DEVELOPMENT	7,661	7,661
35	0603261N	TACTICAL AIRBORNE RECONNAISSANCE	3,707	3,707
36	0603382N	ADVANCED COMBAT SYSTEMS TECHNOLOGY	61,381	61,381
37	0603502N	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES	154,117	128,117
		<i>PLUS experimentation</i>		[10,000]
		<i>Reduce Barracuda</i>		[-16,000]
		<i>Reduce Snakehead</i>		[-20,000]
38	0603506N	SURFACE SHIP TORPEDO DEFENSE	14,974	14,974
39	0603512N	CARRIER SYSTEMS DEVELOPMENT	9,296	9,296
40	0603525N	PILOT FISH	132,083	132,083
41	0603527N	RETRACT LARCH	15,407	15,407
42	0603536N	RETRACT JUNIPER	122,413	122,413
43	0603542N	RADIOLOGICAL CONTROL	745	745
44	0603553N	SURFACE ASW	1,136	1,136
45	0603561N	ADVANCED SUBMARINE SYSTEM DEVELOPMENT	100,955	100,955
46	0603562N	SUBMARINE TACTICAL WARFARE SYSTEMS	13,834	13,834
47	0603563N	SHIP CONCEPT ADVANCED DESIGN	36,891	36,891
48	0603564N	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES	12,012	42,012
		<i>Aircraft carrier preliminary design</i>		[30,000]
49	0603570N	ADVANCED NUCLEAR POWER SYSTEMS	329,500	329,500
50	0603573N	ADVANCED SURFACE MACHINERY SYSTEMS	29,953	29,953
51	0603576N	CHALK EAGLE	191,610	191,610
52	0603581N	LITTORAL COMBAT SHIP (LCS)	40,991	33,991
		<i>Excess program support</i>		[-7,000]
53	0603582N	COMBAT SYSTEM INTEGRATION	24,674	24,674
54	0603595N	OHIO REPLACEMENT	776,158	776,158
55	0603596N	LCS MISSION MODULES	116,871	116,871
56	0603597N	AUTOMATED TEST AND ANALYSIS	8,052	8,052
57	0603599N	FRIGATE DEVELOPMENT	143,450	143,450
58	0603609N	CONVENTIONAL MUNITIONS	8,909	8,909
60	0603635M	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM	1,428	1,428
61	0603654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	53,367	53,367
63	0603713N	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT	8,212	8,212
64	0603721N	ENVIRONMENTAL PROTECTION	20,214	20,214
65	0603724N	NAVY ENERGY PROGRAM	50,623	50,623
66	0603725N	FACILITIES IMPROVEMENT	2,837	2,837
67	0603734N	CHALK CORAL	245,143	245,143
68	0603739N	NAVY LOGISTIC PRODUCTIVITY	2,995	2,995
69	0603746N	RETRACT MAPLE	306,101	306,101
70	0603748N	LINK PLUMERIA	253,675	253,675
71	0603751N	RETRACT ELM	55,691	55,691
72	0603764N	LINK EVERGREEN	48,982	48,982
74	0603790N	NATO RESEARCH AND DEVELOPMENT	9,099	9,099
75	0603795N	LAND ATTACK TECHNOLOGY	33,568	33,568
76	0603851M	JOINT NON-LETHAL WEAPONS TESTING	29,873	29,873
77	0603860N	JOINT PRECISION APPROACH AND LANDING SYSTEMS—DEVAL. <i>VAL</i>	106,391	106,391
78	0603925N	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS	107,310	107,310
79	0604112N	GERALD R. FORD CLASS NUCLEAR AIRCRAFT CARRIER (CVN 78—80)	83,935	83,935
81	0604272N	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM)	46,844	46,844
83	0604286M	MARINE CORPS ADDITIVE MANUFACTURING TECHNOLOGY DEVELOPMENT	6,200	6,200

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
85	0604320M	RAPID TECHNOLOGY CAPABILITY PROTOTYPE	7,055	17,055
		Increase rapid acquisition capability for Marine Corps Warfighting Lab.		[10,000]
86	0604454N	LX (R)	9,578	9,578
87	0604536N	ADVANCED UNDERSEA PROTOTYPING	66,543	13,643
		Funding early to need		[-52,900]
89	0604659N	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM	31,315	31,315
90	0604707N	SPACE AND ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINEERING SUPPORT.	42,851	42,851
91	0604786N	OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT	160,694	160,694
93	0303354N	ASW SYSTEMS DEVELOPMENT—MIP	8,278	8,278
94	0304240M	ADVANCED TACTICAL UNMANNED AIRCRAFT SYSTEM	7,979	7,979
95	0304270N	ELECTRONIC WARFARE DEVELOPMENT—MIP	527	527
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES	4,218,714	4,172,814
		SYSTEM DEVELOPMENT & DEMONSTRATION		
96	0603208N	TRAINING SYSTEM AIRCRAFT	16,945	16,945
97	0604212N	OTHER HELO DEVELOPMENT	26,786	26,786
98	0604214N	AV-8B AIRCRAFT—ENG DEV	48,780	48,780
99	0604215N	STANDARDS DEVELOPMENT	2,722	2,722
100	0604216N	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT	5,371	5,371
101	0604218N	AIR/OCEAN EQUIPMENT ENGINEERING	782	782
102	0604221N	P-3 MODERNIZATION PROGRAM	1,361	1,361
103	0604230N	WARFARE SUPPORT SYSTEM	14,167	14,167
104	0604231N	TACTICAL COMMAND SYSTEM	55,695	55,695
105	0604234N	ADVANCED HAWKEYE	292,535	292,535
106	0604245N	H-1 UPGRADES	61,288	61,288
107	0604261N	ACOUSTIC SEARCH SENSORS	37,167	37,167
108	0604262N	V-22A	171,386	186,386
		UFR: MV-22 Common Configuration CC-RAM improvements		[15,000]
109	0604264N	AIR CREW SYSTEMS DEVELOPMENT	13,235	33,235
		Physiological Episode prize competition		[10,000]
		Physiological episodes		[10,000]
110	0604269N	EA-18	173,488	173,488
111	0604270N	ELECTRONIC WARFARE DEVELOPMENT	54,055	57,055
		UFR: Intrepid Tiger UH-1Y Jettison Capability		[3,000]
112	0604273N	EXECUTIVE HELO DEVELOPMENT	451,938	451,938
113	0604274N	NEXT GENERATION JAMMER (NGJ)	632,936	632,936
114	0604280N	JOINT TACTICAL RADIO SYSTEM—NAVY (JTRS-NAVY)	4,310	4,310
115	0604282N	NEXT GENERATION JAMMER (NGJ) INCREMENT II	66,686	66,686
116	0604307N	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING	390,238	390,238
117	0604311N	LPD-17 CLASS SYSTEMS INTEGRATION	689	689
118	0604329N	SMALL DIAMETER BOMB (SDB)	112,846	112,846
119	0604366N	STANDARD MISSILE IMPROVEMENTS	158,578	158,578
120	0604373N	AIRBORNE MCM	15,734	15,734
122	0604378N	NAVAL INTEGRATED FIRE CONTROL—COUNTER AIR SYSTEMS ENGINEERING.	25,445	25,445
124	0604501N	ADVANCED ABOVE WATER SENSORS	87,233	87,233
125	0604503N	SSN-688 AND TRIDENT MODERNIZATION	130,981	130,981
126	0604504N	AIR CONTROL	75,186	75,186
127	0604512N	SHIPBOARD AVIATION SYSTEMS	177,926	177,926
128	0604518N	COMBAT INFORMATION CENTER CONVERSION	8,062	8,062
129	0604522N	AIR AND MISSILE DEFENSE RADAR (AMDR) SYSTEM	32,090	32,090
130	0604558N	NEW DESIGN SSN	120,087	120,087
131	0604562N	SUBMARINE TACTICAL WARFARE SYSTEM	50,850	50,850
132	0604567N	SHIP CONTRACT DESIGN/ LIVE FIRE T&E	67,166	67,166
133	0604574N	NAVY TACTICAL COMPUTER RESOURCES	4,817	4,817
134	0604580N	VIRGINIA PAYLOAD MODULE (VPM)	72,861	72,861
135	0604601N	MINE DEVELOPMENT	25,635	25,635
136	0604610N	LIGHTWEIGHT TORPEDO DEVELOPMENT	28,076	28,076
137	0604654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT	7,561	7,561
138	0604703N	PERSONNEL, TRAINING, SIMULATION, AND HUMAN FACTORS	40,828	40,828
139	0604727N	JOINT STANDOFF WEAPON SYSTEMS	435	435
140	0604755N	SHIP SELF DEFENSE (DETECT & CONTROL)	161,713	164,713
		UFR: Ship C2 Systems for Amphibs		[3,000]
141	0604756N	SHIP SELF DEFENSE (ENGAGE: HARD KILL)	212,412	212,412
142	0604757N	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW)	103,391	103,391
143	0604761N	INTELLIGENCE ENGINEERING	34,855	34,855
144	0604771N	MEDICAL DEVELOPMENT	9,353	9,353
145	0604777N	NAVIGATION/ID SYSTEM	92,546	92,546
146	0604800M	JOINT STRIKE FIGHTER (JSF)—EMD	152,934	244,134
		SDD plus up		[91,200]
147	0604800N	JOINT STRIKE FIGHTER (JSF)—EMD	108,931	175,631
		SDD plus up		[66,700]
148	0604810M	JOINT STRIKE FIGHTER FOLLOW ON MODERNIZATION (FOM)—MARINE CORPS.	144,958	144,958
149	0604810N	JOINT STRIKE FIGHTER FOLLOW ON MODERNIZATION (FOM)—NAVY.	143,855	143,855

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
150	0605013M	INFORMATION TECHNOLOGY DEVELOPMENT	14,865	14,865
151	0605013N	INFORMATION TECHNOLOGY DEVELOPMENT	152,977	117,932
		Navy ePS consolidate requirements		[-11,200]
		NSIPS consolidate requirements		[-23,845]
152	0605024N	ANTI-TAMPER TECHNOLOGY SUPPORT	3,410	3,410
153	0605212N	CH-53K RDTE	340,758	340,758
154	0605215N	MISSION PLANNING	33,430	33,430
155	0605217N	COMMON AVIONICS	58,163	58,163
156	0605220N	SHIP TO SHORE CONNECTOR (SSC)	22,410	22,410
157	0605327N	T-AO 205 CLASS	1,961	1,961
158	0605414N	UNMANNED CARRIER AVIATION (UCA)	222,208	222,208
159	0605450N	JOINT AIR-TO-GROUND MISSILE (JAGM)	15,473	15,473
160	0605500N	MULTI-MISSION MARITIME AIRCRAFT (MMA)	11,795	11,795
161	0605504N	MULTI-MISSION MARITIME (MMA) INCREMENT III	181,731	181,731
162	0605611M	MARINE CORPS ASSAULT VEHICLES SYSTEM DEVELOPMENT & DEMONSTRATION.	178,993	178,993
163	0605813M	JOINT LIGHT TACTICAL VEHICLE (JLTV) SYSTEM DEVELOPMENT & DEMONSTRATION.	20,710	20,710
164	0204202N	DDG-1000	140,500	90,500
		Unjustified cost growth		[-50,000]
168	0304785N	TACTICAL CRYPTOLOGIC SYSTEMS	28,311	28,311
170	0306250M	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	4,502	4,502
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION.	6,362,102	6,475,957
		MANAGEMENT SUPPORT		
171	0604256N	THREAT SIMULATOR DEVELOPMENT	91,819	91,819
172	0604258N	TARGET SYSTEMS DEVELOPMENT	23,053	23,053
173	0604759N	MAJOR T&E INVESTMENT	52,634	65,634
		UFR: Critical infrastructure investments for major range and test facilities.		[13,000]
174	0605126N	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION ...	141	141
175	0605152N	STUDIES AND ANALYSIS SUPPORT—NAVY	3,917	3,917
176	0605154N	CENTER FOR NAVAL ANALYSES	50,432	50,432
179	0605804N	TECHNICAL INFORMATION SERVICES	782	782
180	0605853N	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT	94,562	89,062
		Unjustified cost growth		[-5,500]
181	0605856N	STRATEGIC TECHNICAL SUPPORT	4,313	4,313
182	0605861N	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT	1,104	1,104
183	0605863N	RDT&E SHIP AND AIRCRAFT SUPPORT	105,666	105,666
184	0605864N	TEST AND EVALUATION SUPPORT	373,667	373,667
185	0605865N	OPERATIONAL TEST AND EVALUATION CAPABILITY	20,298	20,298
186	0605866N	NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT	17,341	17,341
188	0605873M	MARINE CORPS PROGRAM WIDE SUPPORT	21,751	21,751
189	0605898N	MANAGEMENT HQ—R&D	44,279	44,279
190	0606355N	WARFARE INNOVATION MANAGEMENT	28,841	28,841
191	0902498N	MANAGEMENT HEADQUARTERS (DEPARTMENTAL SUPPORT ACTIVITIES).	1,749	1,749
194	1206867N	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT	9,408	9,408
		SUBTOTAL MANAGEMENT SUPPORT	945,757	953,257
		OPERATIONAL SYSTEMS DEVELOPMENT		
196	0607658N	COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	92,571	121,571
		UFR: Accelerate Tactical Data Distribution Initiative		[18,000]
		UFR: IFF Mode 5 acceleration		[11,000]
197	0607700N	DEPLOYABLE JOINT COMMAND AND CONTROL	3,137	3,137
198	0101221N	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT	135,219	135,219
199	0101224N	SSBN SECURITY TECHNOLOGY PROGRAM	36,242	36,242
200	0101226N	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT	12,053	12,053
201	0101402N	NAVY STRATEGIC COMMUNICATIONS	18,221	18,221
203	0204136N	F/A-18 SQUADRONS	224,470	224,470
204	0204163N	FLEET TELECOMMUNICATIONS (TACTICAL)	33,525	33,525
205	0204228N	SURFACE SUPPORT	24,829	24,829
206	0204229N	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC).	133,617	133,617
207	0204311N	INTEGRATED SURVEILLANCE SYSTEM	38,972	38,972
208	0204413N	AMPHIBIOUS TACTICAL SUPPORT UNITS (DISPLACEMENT CRAFT).	3,940	3,940
209	0204460M	GROUND/AIR TASK ORIENTED RADAR (G/ATOR)	54,645	54,645
210	0204571N	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT	66,518	66,518
211	0204574N	CRYPTOLOGIC DIRECT SUPPORT	1,155	1,155
212	0204575N	ELECTRONIC WARFARE (EW) READINESS SUPPORT	51,040	51,040
213	0205601N	HARM IMPROVEMENT	87,989	97,989
		UFR: Weapons Improvement		[10,000]
214	0205604N	TACTICAL DATA LINKS	89,852	89,852
215	0205620N	SURFACE ASW COMBAT SYSTEM INTEGRATION	29,351	29,351
216	0205632N	MK-48 ADCAP	68,553	68,553
217	0205633N	AVIATION IMPROVEMENTS	119,099	119,099

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
218	0205675N	OPERATIONAL NUCLEAR POWER SYSTEMS	127,445	127,445
219	0206313M	MARINE CORPS COMMUNICATIONS SYSTEMS	123,825	123,825
220	0206335M	COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S) ...	7,343	7,343
221	0206623M	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS	66,009	66,009
222	0206624M	MARINE CORPS COMBAT SERVICES SUPPORT	25,258	25,258
223	0206625M	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS (MIP) ...	30,886	30,886
224	0206629M	AMPHIBIOUS ASSAULT VEHICLE	58,728	58,728
225	0207161N	TACTICAL AIM MISSILES	42,884	51,884
		UFR: Weapons Improvement		[9,000]
226	0207163N	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	25,364	25,364
232	0303138N	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES (CANES).	24,271	24,271
233	0303140N	INFORMATION SYSTEMS SECURITY PROGRAM	50,269	50,269
236	0305192N	MILITARY INTELLIGENCE PROGRAM (MIP) ACTIVITIES	6,352	6,352
237	0305204N	TACTICAL UNMANNED AERIAL VEHICLES	7,770	7,770
238	0305205N	UAS INTEGRATION AND INTEROPERABILITY	39,736	39,736
239	0305208M	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	12,867	12,867
240	0305208N	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	46,150	46,150
241	0305220N	MQ-4C TRITON	84,115	84,115
242	0305231N	MQ-8 UAV	62,656	62,656
243	0305232M	RQ-11 UAV	2,022	2,022
245	0305234N	SMALL (LEVEL 0) TACTICAL UAS (STUASLo)	4,835	4,835
246	0305239M	RQ-21A	8,899	8,899
247	0305241N	MULTI-INTELLIGENCE SENSOR DEVELOPMENT	99,020	99,020
248	0305242M	UNMANNED AERIAL SYSTEMS (UAS) PAYLOADS (MIP)	18,578	18,578
249	0305421N	RQ-4 MODERNIZATION	229,404	229,404
250	0308601N	MODELING AND SIMULATION SUPPORT	5,238	5,238
251	0702207N	DEPOT MAINTENANCE (NON-IE)	38,227	38,227
252	0708730N	MARITIME TECHNOLOGY (MARITECH)	4,808	4,808
253	1203109N	SATELLITE COMMUNICATIONS (SPACE)	37,836	37,836
255	999999999	CLASSIFIED PROGRAMS	1,364,347	1,564,347
		Classified project 0428		[200,000]
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	3,980,140	4,228,140
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY.	17,675,035	18,053,490
		RESEARCH, DEVELOPMENT, TEST & EVAL, AF		
		BASIC RESEARCH		
1	0601102F	DEFENSE RESEARCH SCIENCES	342,919	342,919
2	0601103F	UNIVERSITY RESEARCH INITIATIVES	147,923	147,923
3	0601108F	HIGH ENERGY LASER RESEARCH INITIATIVES	14,417	14,417
		SUBTOTAL BASIC RESEARCH	505,259	505,259
		APPLIED RESEARCH		
4	0602102F	MATERIALS	124,264	124,264
5	0602201F	AEROSPACE VEHICLE TECHNOLOGIES	124,678	129,678
		Hypersonic wind tunnels		[5,000]
6	0602202F	HUMAN EFFECTIVENESS APPLIED RESEARCH	108,784	133,784
		Advanced training environments		[25,000]
7	0602203F	AEROSPACE PROPULSION	192,695	200,695
		Program increase		[5,500]
		UFR: S&T TOA to 1.9%		[2,500]
8	0602204F	AEROSPACE SENSORS	152,782	152,782
9	0602298F	SCIENCE AND TECHNOLOGY MANAGEMENT— MAJOR HEAD- QUARTERS ACTIVITIES.	8,353	8,353
10	0602601F	SPACE TECHNOLOGY	116,503	116,503
11	0602602F	CONVENTIONAL MUNITIONS	112,195	112,195
12	0602605F	DIRECTED ENERGY TECHNOLOGY	132,993	141,293
		UFR: S&T TOA to 1.9%		[8,300]
13	0602788F	DOMINANT INFORMATION SCIENCES AND METHODS	167,818	167,818
14	0602890F	HIGH ENERGY LASER RESEARCH	43,049	43,049
		SUBTOTAL APPLIED RESEARCH	1,284,114	1,330,414
		ADVANCED TECHNOLOGY DEVELOPMENT		
15	0603112F	ADVANCED MATERIALS FOR WEAPON SYSTEMS	37,856	37,856
16	0603199F	SUSTAINMENT SCIENCE AND TECHNOLOGY (S&T)	22,811	22,811
17	0603203F	ADVANCED AEROSPACE SENSORS	40,978	40,978
18	0603211F	AEROSPACE TECHNOLOGY DEV/DEMO	115,966	121,666
		UFR: S&T TOA to 1.9%		[5,700]
19	0603216F	AEROSPACE PROPULSION AND POWER TECHNOLOGY	104,499	117,999
		UFR: S&T TOA to 1.9%		[13,500]
20	0603270F	ELECTRONIC COMBAT TECHNOLOGY	60,551	65,551
		Software engineering capabilities		[5,000]
21	0603401F	ADVANCED SPACECRAFT TECHNOLOGY	58,910	73,910
		UFR: Commercial SSA consortia/testbed		[15,000]
22	0603444F	MAUI SPACE SURVEILLANCE SYSTEM (MSSS)	10,433	10,433
23	0603456F	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOP- MENT.	33,635	33,635

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
24	0603601F	CONVENTIONAL WEAPONS TECHNOLOGY	167,415	167,415
25	0603605F	ADVANCED WEAPONS TECHNOLOGY	45,502	45,502
26	0603680F	MANUFACTURING TECHNOLOGY PROGRAM	46,450	46,450
27	0603788F	BATTLESPACE KNOWLEDGE DEVELOPMENT AND DEMONSTRATION.	49,011	49,011
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT ...	794,017	833,217
		ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES		
28	0603260F	INTELLIGENCE ADVANCED DEVELOPMENT	5,652	5,652
30	0603742F	COMBAT IDENTIFICATION TECHNOLOGY	24,397	24,397
31	0603790F	NATO RESEARCH AND DEVELOPMENT	3,851	3,851
33	0603851F	INTERCONTINENTAL BALLISTIC MISSILE—DEM/VAL	10,736	10,736
34	0603859F	POLLUTION PREVENTION—DEM/VAL	2	2
35	0604015F	LONG RANGE STRIKE—BOMBER	2,003,580	2,003,580
36	0604201F	INTEGRATED AVIONICS PLANNING AND DEVELOPMENT	65,458	100,858
		UFR: GPS Receiver Development		[35,400]
37	0604257F	ADVANCED TECHNOLOGY AND SENSORS	68,719	83,419
		UFR: Hyperspectral Chip Development		[14,700]
38	0604288F	NATIONAL AIRBORNE OPS CENTER (NAOC) RECAP	7,850	7,850
39	0604317F	TECHNOLOGY TRANSFER	3,295	3,295
40	0604327F	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM (HDBTDS) PROGRAM.	17,365	17,365
41	0604414F	CYBER RESILIENCY OF WEAPON SYSTEMS-ACS	32,253	42,453
		UFR: Cyber Security & Resiliency for Weapon Systems		[10,200]
44	0604776F	DEPLOYMENT & DISTRIBUTION ENTERPRISE R&D	26,222	26,222
46	0604858F	TECH TRANSITION PROGRAM	840,650	935,650
		UFR: Directed Energy Prototyping		[70,000]
		UFR: Hypersonics Prototyping		[10,000]
		UFR: Long-Endurance Aerial Platform Ahead Prototyping		[15,000]
47	0605230F	GROUND BASED STRATEGIC DETERRENT	215,721	215,721
49	0207110F	NEXT GENERATION AIR DOMINANCE	294,746	441,746
		UFR: Penetrating Counter air (PCA) Risk Reduction		[147,000]
50	0207455F	THREE DIMENSIONAL LONG-RANGE RADAR (3DELRR)	10,645	10,645
52	0305236F	COMMON DATA LINK EXECUTIVE AGENT (CDL EA)	41,509	41,509
53	0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	226,287	226,287
54	0306415F	ENABLED CYBER ACTIVITIES	16,687	16,687
55	0408011F	SPECIAL TACTICS / COMBAT CONTROL	4,500	4,500
56	0901410F	CONTRACTING INFORMATION TECHNOLOGY SYSTEM	15,867	0
		Consolidate requirements		[-15,867]
57	1203164F	NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT) (SPACE).	253,939	352,439
		UFR: Military GPS User Equipment INC2		[98,500]
58	1203710F	EO/IR WEATHER SYSTEMS	10,000	10,000
59	1206422F	WEATHER SYSTEM FOLLOW-ON	112,088	112,088
60	1206425F	SPACE SITUATION AWARENESS SYSTEMS	34,764	34,764
61	1206434F	MIDTERM POLAR MILSATCOM SYSTEM	63,092	63,092
62	1206438F	SPACE CONTROL TECHNOLOGY	7,842	128,642
		UFR: Space Defense Force Packaging		[113,800]
		UFR: Space Enterprise Defense Implementation		[7,000]
63	1206730F	SPACE SECURITY AND DEFENSE PROGRAM	41,385	41,385
64	1206760F	PROTECTED TACTICAL ENTERPRISE SERVICE (PTES)	18,150	18,150
65	1206761F	PROTECTED TACTICAL SERVICE (PTS)	24,201	24,201
66	1206855F	PROTECTED SATCOM SERVICES (PSCS)—AGGREGATED	16,000	16,000
67	1206857F	OPERATIONALLY RESPONSIVE SPACE	87,577	87,577
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.	4,605,030	5,110,763
		SYSTEM DEVELOPMENT & DEMONSTRATION		
68	0604200F	FUTURE ADVANCED WEAPON ANALYSIS & PROGRAMS	5,100	5,100
69	0604201F	INTEGRATED AVIONICS PLANNING AND DEVELOPMENT	101,203	101,203
70	0604222F	NUCLEAR WEAPONS SUPPORT	3,009	3,009
71	0604270F	ELECTRONIC WARFARE DEVELOPMENT	2,241	2,241
72	0604281F	TACTICAL DATA NETWORKS ENTERPRISE	38,250	38,250
73	0604287F	PHYSICAL SECURITY EQUIPMENT	19,739	19,739
74	0604329F	SMALL DIAMETER BOMB (SDB)—EMD	38,979	38,979
78	0604429F	AIRBORNE ELECTRONIC ATTACK	7,091	7,091
80	0604602F	ARMAMENT/ORDNANCE DEVELOPMENT	46,540	46,540
81	0604604F	SUBMUNITIONS	2,705	2,705
82	0604617F	AGILE COMBAT SUPPORT	31,240	31,240
84	0604706F	LIFE SUPPORT SYSTEMS	9,060	9,060
85	0604735F	COMBAT TRAINING RANGES	87,350	87,350
86	0604800F	F-35—EMD	292,947	464,947
		SDD plus up		[172,000]
88	0604932F	LONG RANGE STANDOFF WEAPON	451,290	451,290
89	0604933F	ICBM FUZE MODERNIZATION	178,991	178,991
90	0605030F	JOINT TACTICAL NETWORK CENTER (JTNC)	12,736	12,736
91	0605031F	JOINT TACTICAL NETWORK (JTN)	9,319	9,319

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
92	0605213F	F-22 MODERNIZATION INCREMENT 3.2B	13,600	13,600
94	0605221F	KC-46	93,845	93,845
95	0605223F	ADVANCED PILOT TRAINING	105,999	105,999
96	0605229F	COMBAT RESCUE HELICOPTER	354,485	354,485
100	0605458F	AIR & SPACE OPS CENTER 10.2 RDT&E	119,745	14,945
		Restructure of program		[-104,800]
101	0605931F	B-2 DEFENSIVE MANAGEMENT SYSTEM	194,570	194,570
102	0101125F	NUCLEAR WEAPONS MODERNIZATION	91,237	91,237
103	0207171F	F-15 EPAWSS	209,847	209,847
104	0207328F	STAND IN ATTACK WEAPON	3,400	3,400
105	0207701F	FULL COMBAT MISSION TRAINING	16,727	16,727
109	0307581F	JSTARS RECAP	417,201	417,201
110	0401310F	C-32 EXECUTIVE TRANSPORT RECAPITALIZATION	6,017	6,017
111	0401319F	PRESIDENTIAL AIRCRAFT RECAPITALIZATION (PAR)	434,069	434,069
112	0701212F	AUTOMATED TEST SYSTEMS	18,528	18,528
113	1203176F	COMBAT SURVIVOR EVADER LOCATOR	24,967	24,967
114	1203940F	SPACE SITUATION AWARENESS OPERATIONS	10,029	10,029
115	1206421F	COUNTERSPACE SYSTEMS	66,370	66,370
116	1206425F	SPACE SITUATION AWARENESS SYSTEMS	48,448	48,448
117	1206426F	SPACE FENCE	35,937	62,837
		UFR: Space Fence Site 1 & Ground Based Operational Surveillance System		[26,900]
118	1206431F	ADVANCED EHF MILSATCOM (SPACE)	145,610	145,610
119	1206432F	POLAR MILSATCOM (SPACE)	33,644	33,644
120	1206433F	WIDEBAND GLOBAL SATCOM (SPACE)	14,263	51,263
		UFR: Fix wideband Ka Anti-jam Enhancement (KAJE)		[37,000]
121	1206441F	SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD	311,844	324,644
		UFR: Fix upgrades Space Based Infrared System		[12,800]
122	1206442F	EVOLVED SBIRS	71,018	71,018
123	1206853F	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)—EMD	297,572	297,572
		SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRATION	4,476,762	4,620,662
		MANAGEMENT SUPPORT		
124	0604256F	THREAT SIMULATOR DEVELOPMENT	35,405	35,405
125	0604759F	MAJOR T&E INVESTMENT	82,874	102,874
		Advanced weapons system testing capabilities		[15,000]
		UFR: Weapon System Cyber Resiliency-TE		[5,000]
126	0605101F	RAND PROJECT AIR FORCE	34,346	34,346
128	0605712F	INITIAL OPERATIONAL TEST & EVALUATION	15,523	15,523
129	0605807F	TEST AND EVALUATION SUPPORT	678,289	705,689
		UFR: 4th Gen Mods		[23,000]
		UFR: Weapon System Cyber Resiliency-TE		[4,400]
130	0605826F	ACQ WORKFORCE- GLOBAL POWER	219,809	219,809
131	0605827F	ACQ WORKFORCE- GLOBAL VIG & COMBAT SYS	223,179	223,179
132	0605828F	ACQ WORKFORCE- GLOBAL REACH	138,556	138,556
133	0605829F	ACQ WORKFORCE- CYBER, NETWORK, & BUS SYS	221,393	221,393
134	0605830F	ACQ WORKFORCE- GLOBAL BATTLE MGMT	152,577	152,577
135	0605831F	ACQ WORKFORCE- CAPABILITY INTEGRATION	196,561	196,561
136	0605832F	ACQ WORKFORCE- ADVANCED PRGM TECHNOLOGY	28,322	28,322
137	0605833F	ACQ WORKFORCE- NUCLEAR SYSTEMS	126,611	126,611
140	0605898F	MANAGEMENT HQ—R&D	9,154	9,154
141	0605976F	FACILITIES RESTORATION AND MODERNIZATION—TEST AND EVALUATION SUPPORT	135,507	135,507
142	0605978F	FACILITIES SUSTAINMENT—TEST AND EVALUATION SUPPORT	28,720	28,720
143	0606017F	REQUIREMENTS ANALYSIS AND MATURATION	35,453	135,453
		UFR: Modeling and Simulation Joint Simulation Environment		[70,000]
		UFR:AS2030 Planning for Development		[30,000]
146	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	29,049	29,049
147	0702806F	ACQUISITION AND MANAGEMENT SUPPORT	14,980	14,980
148	0804731F	GENERAL SKILL TRAINING	1,434	1,434
150	1001004F	INTERNATIONAL ACTIVITIES	4,569	4,569
151	1206116F	SPACE TEST AND TRAINING RANGE DEVELOPMENT	25,773	25,773
152	1206392F	SPACE AND MISSILE CENTER (SMC) CIVILIAN WORKFORCE	169,887	169,887
153	1206398F	SPACE & MISSILE SYSTEMS CENTER—MHA	9,531	9,531
154	1206860F	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE)	20,975	34,275
		UFR: Rocket System Launch Program (RSLP)		[13,300]
155	1206864F	SPACE TEST PROGRAM (STP)	25,398	25,398
		SUBTOTAL MANAGEMENT SUPPORT	2,663,875	2,824,575
		OPERATIONAL SYSTEMS DEVELOPMENT		
157	0604222F	NUCLEAR WEAPONS SUPPORT	27,579	27,579
158	0604233F	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	5,776	5,776
159	0604445F	WIDE AREA SURVEILLANCE	16,247	16,247
161	0605018F	AF INTEGRATED PERSONNEL AND PAY SYSTEM (AF-IPPS)	21,915	0
		Consolidate requirements		[-21,915]
162	0605024F	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY	33,150	33,150

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
163	0605117F	FOREIGN MATERIEL ACQUISITION AND EXPLOITATION	66,653	66,653
164	0605278F	HC/MC-130 RECAP RDT&E	38,579	38,579
165	0606018F	NC3 INTEGRATION	12,636	12,636
166	0101113F	B-52 SQUADRONS	111,910	111,910
167	0101122F	AIR-LAUNCHED CRUISE MISSILE (ALCM)	463	463
168	0101126F	B-1B SQUADRONS	62,471	62,471
169	0101127F	B-2 SQUADRONS	193,108	193,108
170	0101213F	MINUTEMAN SQUADRONS	210,845	210,845
		Requested transfer: Ground and Comms Equipment		[-20,000]
		Requested transfer: ICBM Cryptography Upgrade II		[20,000]
171	0101313F	INTEGRATED STRATEGIC PLANNING AND ANALYSIS NETWORK (ISPAN)—USSTRATCOM	25,736	25,736
173	0101316F	WORLDWIDE JOINT STRATEGIC COMMUNICATIONS	6,272	10,272
		UFR: NC3—Global Assured Communications CBA Execution		[4,000]
174	0101324F	INTEGRATED STRATEGIC PLANNING & ANALYSIS NETWORK	11,032	11,032
176	0102110F	UH-1N REPLACEMENT PROGRAM	108,617	108,617
177	0102326F	REGION/SECTOR OPERATION CONTROL CENTER MODERNIZA- TION PROGRAM	3,347	3,347
179	0205219F	MQ-9 UAV	201,394	201,394
182	0207131F	A-10 SQUADRONS	17,459	17,459
183	0207133F	F-16 SQUADRONS	246,578	271,578
		UFR: F-16 MIDS-JTRS		[25,000]
184	0207134F	F-15E SQUADRONS	320,271	320,271
185	0207136F	MANNED DESTRUCTIVE SUPPRESSION	15,106	15,106
186	0207138F	F-22A SQUADRONS	610,942	610,942
187	0207142F	F-35 SQUADRONS	334,530	334,530
188	0207161F	TACTICAL AIM MISSILES	34,952	54,952
		Pulsed rocket motor technologies		[20,000]
189	0207163F	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM)	61,322	61,322
191	0207227F	COMBAT RESCUE—PARARESCUE	693	693
193	0207249F	PRECISION ATTACK SYSTEMS PROCUREMENT	1,714	1,714
194	0207253F	COMPASS CALL	14,040	34,240
		UFR: Baseline 3 (BL3) Advanced Radar Countermeasure System		[20,200]
195	0207268F	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	109,243	109,243
197	0207325F	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM)	29,932	29,932
198	0207410F	AIR & SPACE OPERATIONS CENTER (AOC)	26,956	26,956
199	0207412F	CONTROL AND REPORTING CENTER (CRC)	2,450	2,450
200	0207417F	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS)	151,726	151,726
201	0207418F	TACTICAL AIRBORNE CONTROL SYSTEMS	3,656	3,656
203	0207431F	COMBAT AIR INTELLIGENCE SYSTEM ACTIVITIES	13,420	13,420
204	0207444F	TACTICAL AIR CONTROL PARTY-MOD	10,623	10,623
205	0207448F	C/ISR TACTICAL DATA LINK	1,754	1,754
206	0207452F	DCAPES	17,382	17,382
207	0207573F	NATIONAL TECHNICAL NUCLEAR FORENSICS	2,307	2,307
208	0207590F	SEEK EAGLE	25,397	25,397
209	0207601F	USAF MODELING AND SIMULATION	10,175	10,175
210	0207605F	WARGAMING AND SIMULATION CENTERS	12,839	12,839
211	0207697F	DISTRIBUTED TRAINING AND EXERCISES	4,190	4,190
212	0208006F	MISSION PLANNING SYSTEMS	85,531	85,531
213	0208007F	TACTICAL DECEPTION	3,761	3,761
214	0208087F	AF OFFENSIVE CYBERSPACE OPERATIONS	35,693	35,693
215	0208088F	AF DEFENSIVE CYBERSPACE OPERATIONS	20,964	20,964
218	0301017F	GLOBAL SENSOR INTEGRATED ON NETWORK (GSIN)	3,549	3,549
219	0301112F	NUCLEAR PLANNING AND EXECUTION SYSTEM (NPES)	4,371	4,371
227	0301401F	AIR FORCE SPACE AND CYBER NON-TRADITIONAL ISR FOR BATTLESPACE AWARENESS	3,721	3,721
228	0302015F	E-4B NATIONAL AIRBORNE OPERATIONS CENTER (NAOC)	35,467	35,467
230	0303131F	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NET- WORK (MEECN)	48,841	48,841
		Requested transfer: Global ASNT Iner 2 and CVR		[-21,100]
		Requested transfer: Global ASNT Increment 1		[21,100]
231	0303140F	INFORMATION SYSTEMS SECURITY PROGRAM	42,973	42,973
232	0303141F	GLOBAL COMBAT SUPPORT SYSTEM	105	105
233	0303142F	GLOBAL FORCE MANAGEMENT—DATA INITIATIVE	2,147	2,147
236	0304260F	AIRBORNE SIGINT ENTERPRISE	121,948	121,948
237	0304310F	COMMERCIAL ECONOMIC ANALYSIS	3,544	3,544
240	0305020F	CCMD INTELLIGENCE INFORMATION TECHNOLOGY	1,542	1,542
241	0305099F	GLOBAL AIR TRAFFIC MANAGEMENT (GATM)	4,453	4,453
243	0305111F	WEATHER SERVICE	26,654	26,654
244	0305114F	AIR TRAFFIC CONTROL, APPROACH, AND LANDING SYSTEM (ATCALS)	6,306	6,306
245	0305116F	AERIAL TARGETS	21,295	21,295
248	0305128F	SECURITY AND INVESTIGATIVE ACTIVITIES	415	415
250	0305146F	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES	3,867	3,867
257	0305202F	DRAGON U-2	34,486	34,486
259	0305206F	AIRBORNE RECONNAISSANCE SYSTEMS	4,450	4,450
260	0305207F	MANNED RECONNAISSANCE SYSTEMS	14,269	14,269
261	0305208F	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	27,501	27,501

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
262	0305220F	RQ-4 UAV	214,849	214,849
263	0305221F	NETWORK-CENTRIC COLLABORATIVE TARGETING	18,842	18,842
265	0305238F	NATO AGS	44,729	44,729
266	0305240F	SUPPORT TO DCGS ENTERPRISE	26,349	26,349
269	0305600F	INTERNATIONAL INTELLIGENCE TECHNOLOGY AND ARCHITECTURES.	3,491	3,491
271	0305881F	RAPID CYBER ACQUISITION	4,899	4,899
275	0305984F	PERSONNEL RECOVERY COMMAND & CTRL (PRC2)	2,445	2,445
276	0307577F	INTELLIGENCE MISSION DATA (IMD)	8,684	8,684
278	0401115F	C-130 AIRLIFT SQUADRON	10,219	10,219
279	0401119F	C-5 AIRLIFT SQUADRONS (IF)	22,758	22,758
280	0401130F	C-17 AIRCRAFT (IF)	34,287	34,287
281	0401132F	C-130J PROGRAM	26,821	20,421
		Available prior year funds		[-6,400]
282	0401134F	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCM)	5,283	5,283
283	0401218F	KC-135S	9,942	9,942
284	0401219F	KC-10S	7,933	7,933
285	0401314F	OPERATIONAL SUPPORT AIRLIFT	6,681	6,681
286	0401318F	CV-22	22,519	36,519
		UFR: CV-22 Aircraft Survivability and Availability		[7,000]
		UFR: CV-22 Integrated Modula Avionics		[7,000]
287	0401840F	AMC COMMAND AND CONTROL SYSTEM	3,510	3,510
288	0408011F	SPECIAL TACTICS / COMBAT CONTROL	8,090	8,090
289	0702207F	DEPOT MAINTENANCE (NON-IF)	1,528	1,528
290	0708055F	MAINTENANCE, REPAIR & OVERHAUL SYSTEM	31,677	31,677
291	0708610F	LOGISTICS INFORMATION TECHNOLOGY (LOGIT)	33,344	33,344
292	0708611F	SUPPORT SYSTEMS DEVELOPMENT	9,362	9,362
293	0804743F	OTHER FLIGHT TRAINING	2,074	2,074
294	0808716F	OTHER PERSONNEL ACTIVITIES	107	107
295	0901202F	JOINT PERSONNEL RECOVERY AGENCY	2,006	2,006
296	0901218F	CIVILIAN COMPENSATION PROGRAM	3,780	3,780
297	0901220F	PERSONNEL ADMINISTRATION	7,472	7,472
298	0901226F	AIR FORCE STUDIES AND ANALYSIS AGENCY	1,563	1,563
299	0901538F	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT.	91,211	91,211
300	1201921F	SERVICE SUPPORT TO STRATCOM—SPACE ACTIVITIES	14,255	14,255
301	1202247F	AF TENCAP	31,914	31,914
302	1203001F	FAMILY OF ADVANCED BLOS TERMINALS (FAB-T)	32,426	32,426
303	1203110F	SATELLITE CONTROL NETWORK (SPACE)	18,808	18,808
305	1203165F	NAVSTAR GLOBAL POSITIONING SYSTEM (SPACE AND CONTROL SEGMENTS).	10,029	10,029
306	1203173F	SPACE AND MISSILE TEST AND EVALUATION CENTER	25,051	65,051
		UFR: Space Enterprise Defense Implementation		[40,000]
307	1203174F	SPACE INNOVATION, INTEGRATION AND RAPID TECHNOLOGY DEVELOPMENT.	11,390	11,390
308	1203179F	INTEGRATED BROADCAST SERVICE (IBS)	8,747	8,747
309	1203182F	SPACELIFT RANGE SYSTEM (SPACE)	10,549	10,549
310	1203265F	GPS III SPACE SEGMENT	243,435	283,735
		UFR: GPS satellite simulator (GSS)		[40,300]
311	1203400F	SPACE SUPERIORITY INTELLIGENCE	12,691	12,691
312	1203614F	JSPOC MISSION SYSTEM	99,455	147,955
		UFR: Space Enterprise Defense Implementation		[48,500]
313	1203620F	NATIONAL SPACE DEFENSE CENTER	18,052	86,052
		UFR: Fix Enterprise Space BMC2		[68,000]
314	1203699F	SHARED EARLY WARNING (SEW)	1,373	1,373
315	1203906F	NCMC—TWAA SYSTEM	5,000	5,000
316	1203913F	NUDET DETECTION SYSTEM (SPACE)	31,508	31,508
317	1203940F	SPACE SITUATION AWARENESS OPERATIONS	99,984	140,784
		UFR: Space Fence Site 1 & Ground Based Operational Surveillance System.		[40,800]
318	1206423F	GLOBAL POSITIONING SYSTEM III—OPERATIONAL CONTROL SEGMENT.	510,938	510,938
320	999999999	CLASSIFIED PROGRAMS	14,938,002	14,974,002
		Program increase		[36,000]
		SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT	20,585,302	20,913,787
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, AF ...	34,914,359	36,138,677
		RESEARCH, DEVELOPMENT, TEST & EVAL, DW		
		BASIC RESEARCH		
1	0601000BR	DTRA BASIC RESEARCH	37,201	37,201
2	0601101E	DEFENSE RESEARCH SCIENCES	432,347	432,347
3	0601110D8Z	BASIC RESEARCH INITIATIVES	40,612	40,612
4	0601117E	BASIC OPERATIONAL MEDICAL RESEARCH SCIENCE	43,126	43,126
5	0601120D8Z	NATIONAL DEFENSE EDUCATION PROGRAM	74,298	99,298
		Evidence based military child STEM education		[5,000]
		Manufacturing Engineering Education Program		[20,000]
6	0601228D8Z	HISTORICALLY BLACK COLLEGES AND UNIVERSITIES/MINORITY INSTITUTIONS.	25,865	27,865

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
		STEM support for minority women		[2,000]
7	0601384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	43,898	43,898
		SUBTOTAL BASIC RESEARCH	697,347	724,347
		APPLIED RESEARCH		
8	0602000D8Z	JOINT MUNITIONS TECHNOLOGY	19,111	19,111
9	0602115E	BIOMEDICAL TECHNOLOGY	109,360	109,360
11	0602234D8Z	LINCOLN LABORATORY RESEARCH PROGRAM	49,748	49,748
12	0602251D8Z	APPLIED RESEARCH FOR THE ADVANCEMENT OF S&T PRIORITIES.	49,226	49,226
13	0602303E	INFORMATION & COMMUNICATIONS TECHNOLOGY	392,784	392,784
14	0602383E	BIOLOGICAL WARFARE DEFENSE	13,014	13,014
15	0602384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	201,053	201,053
16	0602668D8Z	CYBER SECURITY RESEARCH	14,775	14,775
17	0602702E	TACTICAL TECHNOLOGY	343,776	328,776
		General decrease		[-15,000]
18	0602715E	MATERIALS AND BIOLOGICAL TECHNOLOGY	224,440	224,440
19	0602716E	ELECTRONICS TECHNOLOGY	295,447	285,447
		Unjustified growth		[-10,000]
20	0602718BR	COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH.	157,908	157,908
21	0602751D8Z	SOFTWARE ENGINEERING INSTITUTE (SEI) APPLIED RESEARCH.	8,955	8,955
22	1160401BB	SOF TECHNOLOGY DEVELOPMENT	34,493	34,493
		SUBTOTAL APPLIED RESEARCH	1,914,090	1,889,090
		ADVANCED TECHNOLOGY DEVELOPMENT		
23	0603000D8Z	JOINT MUNITIONS ADVANCED TECHNOLOGY	25,627	25,627
24	0603122D8Z	COMBATING TERRORISM TECHNOLOGY SUPPORT	76,230	76,230
25	0603133D8Z	FOREIGN COMPARATIVE TESTING	24,199	24,199
26	0603160BR	COUNTER WEAPONS OF MASS DESTRUCTION ADVANCED TECHNOLOGY DEVELOPMENT.	268,607	268,607
27	0603176C	ADVANCED CONCEPTS AND PERFORMANCE ASSESSMENT	12,996	12,996
29	0603178C	WEAPONS TECHNOLOGY	5,495	5,495
31	0603180C	ADVANCED RESEARCH	20,184	20,184
32	0603225D8Z	JOINT DOD-DOE MUNITIONS TECHNOLOGY DEVELOPMENT	18,662	18,662
35	0603286E	ADVANCED AEROSPACE SYSTEMS	155,406	155,406
36	0603287E	SPACE PROGRAMS AND TECHNOLOGY	247,435	247,435
37	0603288D8Z	ANALYTIC ASSESSMENTS	13,154	8,154
		General decrease		[-5,000]
38	0603289D8Z	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS	37,674	37,674
39	0603291D8Z	ADVANCED INNOVATIVE ANALYSIS AND CONCEPTS—MHA	15,000	15,000
40	0603294C	COMMON KILL VEHICLE TECHNOLOGY	252,879	252,879
41	0603342D8W	DEFENSE INNOVATION UNIT EXPERIMENTAL (DIUX)	29,594	29,594
42	0603375D8Z	TECHNOLOGY INNOVATION	59,863	59,863
43	0603384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—ADVANCED DEVELOPMENT.	145,359	145,359
44	0603527D8Z	RETRACT LARCH	171,120	171,120
45	0603618D8Z	JOINT ELECTRONIC ADVANCED TECHNOLOGY	14,389	14,389
46	0603648D8Z	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS	105,871	105,871
47	0603662D8Z	NETWORKED COMMUNICATIONS CAPABILITIES	12,661	12,661
48	0603680D8Z	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROGRAM.	136,159	191,159
		Improve productivity of defense industrial base		[20,000]
		Partnership between MEP centers and Manufacturing USA Institutes		[15,000]
		Manufacturing USA institutes		[20,000]
49	0603680S	MANUFACTURING TECHNOLOGY PROGRAM	40,511	40,511
50	0603699D8Z	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT	57,876	57,876
51	0603712S	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS	10,611	10,611
53	0603716D8Z	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM	71,832	81,832
		Readiness increase		[10,000]
54	0603720S	MICROELECTRONICS TECHNOLOGY DEVELOPMENT AND SUPPORT.	219,803	299,803
		Supply chain assurance		[80,000]
55	0603727D8Z	JOINT WARFIGHTING PROGRAM	6,349	6,349
56	0603739E	ADVANCED ELECTRONICS TECHNOLOGIES	79,173	79,173
57	0603760E	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS	106,787	106,787
58	0603766E	NETWORK-CENTRIC WARFARE TECHNOLOGY	439,386	439,386
59	0603767E	SENSOR TECHNOLOGY	210,123	210,123
60	0603769D8Z	DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT.	11,211	11,211
62	0603781D8Z	SOFTWARE ENGINEERING INSTITUTE	15,047	15,047
63	0603826D8Z	QUICK REACTION SPECIAL PROJECTS	69,203	69,203
64	0603833D8Z	ENGINEERING SCIENCE & TECHNOLOGY	25,395	25,395
65	0603941D8Z	TEST & EVALUATION SCIENCE & TECHNOLOGY	89,586	89,586
66	0604055D8Z	OPERATIONAL ENERGY CAPABILITY IMPROVEMENT	38,403	48,403
		Readiness increase		[10,000]
67	0303310D8Z	CWMD SYSTEMS	33,382	33,382

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
68	1160402BB	SOF ADVANCED TECHNOLOGY DEVELOPMENT	72,605	72,605
		SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT ...	3,445,847	3,595,847
ADVANCED COMPONENT DEVELOPMENT AND PROTO-TYPES				
69	0603161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIP- MENT RDT&E ADC&P.	32,937	32,937
70	0603600D8Z	WALKOFF	101,714	101,714
72	0603821D8Z	ACQUISITION ENTERPRISE DATA & INFORMATION SERVICES ...	2,198	2,198
73	0603851D8Z	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PRO- GRAM.	54,583	64,583
		<i>Readiness increase</i>		[10,000]
74	0603881C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT ..	230,162	230,162
75	0603882C	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT <i>UFR: Discrimination</i>	828,097	850,093 [21,996]
76	0603884BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—DEMVAL	148,518	148,518
77	0603884C	BALLISTIC MISSILE DEFENSE SENSORS	247,345	305,207 [57,862]
		<i>UFR: Discrimination</i>		
78	0603890C	BMD ENABLING PROGRAMS	449,442	478,886 [23,342]
		<i>UFR: Discrimination</i>		
		<i>UFR: High Fidelity Modeling and Simulation</i>		[6,102]
79	0603891C	SPECIAL PROGRAMS—MDA	320,190	320,190
80	0603892C	AEGIS BMD	852,052	852,052
83	0603896C	BALLISTIC MISSILE DEFENSE COMMAND AND CONTROL, BAT- TLE MANAGEMENT AND COMMUNICATI.	430,115	430,115
84	0603898C	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT ...	48,954	48,954
85	0603904C	MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC).	53,265	53,265
86	0603906C	REGARDING TRENCH	9,113	9,113
87	0603907C	SEA BASED X-BAND RADAR (SBX)	130,695	130,695
88	0603913C	ISRAELI COOPERATIVE PROGRAMS	105,354	373,804 [71,460]
		<i>Arrow</i>		
		<i>Arrow Upper Tier flight test</i>		[105,000]
		<i>Arrow-Upper Tier</i>		[28,140]
		<i>David's Sling</i>		[63,850]
89	0603914C	BALLISTIC MISSILE DEFENSE TEST	305,791	305,791
90	0603915C	BALLISTIC MISSILE DEFENSE TARGETS	410,425	410,425
91	0603920D8Z	HUMANITARIAN DEMINING	10,837	10,837
92	0603923D8Z	COALITION WARFARE	10,740	10,740
93	0604016D8Z	DEPARTMENT OF DEFENSE CORROSION PROGRAM	3,837	13,837 [10,000]
		<i>DOD Corrosion Program</i>		
94	0604115C	TECHNOLOGY MATURATION INITIATIVES	128,406	128,406
95	0604132D8Z	MISSILE DEFEAT PROJECT	98,369	98,369
96	0604181C	HYPERSONIC DEFENSE	75,300	75,300
97	0604250D8Z	ADVANCED INNOVATIVE TECHNOLOGIES	1,175,832	1,175,832
98	0604294D8Z	TRUSTED & ASSURED MICROELECTRONICS	83,626	83,626
99	0604331D8Z	RAPID PROTOTYPING PROGRAM	100,000	100,000
100	0604342D8Z	DEFENSE TECHNOLOGY OFFSET	0	200,000 [200,000]
		<i>Directed energy</i>		
101	0604400D8Z	DEPARTMENT OF DEFENSE (DOD) UNMANNED SYSTEM COM- MON DEVELOPMENT.	3,967	3,967
102	0604682D8Z	WARGAMING AND SUPPORT FOR STRATEGIC ANALYSIS (SSA)	3,833	3,833
104	0604826J	JOINT C5 CAPABILITY DEVELOPMENT, INTEGRATION AND INTEROPERABILITY ASSESSMENTS.	23,638	23,638
105	0604873C	LONG RANGE DISCRIMINATION RADAR (LRDR)	357,659	357,659
106	0604874C	IMPROVED HOMELAND DEFENSE INTERCEPTORS	465,530	545,530 [80,000]
		<i>UFR: C3 Booster Development</i>		
107	0604876C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT TEST.	36,239	36,239
108	0604878C	AEGIS BMD TEST	134,468	160,819 [26,351]
		<i>UFR: Anti-Air Warfare Capability</i>		
109	0604879C	BALLISTIC MISSILE DEFENSE SENSOR TEST	84,239	84,239
110	0604880C	LAND-BASED SM-3 (LBSM3)	30,486	97,761 [67,275]
		<i>UFR: Anti-Air Warfare Capability</i>		
111	0604881C	AEGIS SM-3 BLOCK IIA CO-DEVELOPMENT	9,739	9,739
112	0604887C	BALLISTIC MISSILE DEFENSE MIDCOURSE SEGMENT TEST	76,757	76,757
113	0604894C	MULTI-OBJECT KILL VEHICLE	6,500	6,500
114	0303191D8Z	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM	2,902	2,902
115	0305103C	CYBER SECURITY INITIATIVE	986	986
116	1206893C	SPACE TRACKING & SURVEILLANCE SYSTEM	34,907	34,907
117	1206895C	BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS	16,994	44,494 [27,500]
		<i>UFR: Space Based Sensor</i>		
262	888888	GROUND-LAUNCHED INTERMEDIATE RANGE MISSILE	0	65,000 [65,000]
		<i>Ground-Launched Intermediate Range Missile</i>		
		SUBTOTAL ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES.	7,736,741	8,600,619

SYSTEM DEVELOPMENT AND DEMONSTRATION

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
118	0604161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E SDD.	12,536	12,536
119	0604165D8Z	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT	201,749	201,749
120	0604384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—EMD	406,789	406,789
122	0604771D8Z	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)	15,358	15,358
123	0605000BR	COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT.	6,241	6,241
124	0605013BL	INFORMATION TECHNOLOGY DEVELOPMENT	12,322	12,322
125	0605021SE	HOMELAND PERSONNEL SECURITY INITIATIVE	4,893	4,893
126	0605022D8Z	DEFENSE EXPORTABILITY PROGRAM	3,162	3,162
127	0605027D8Z	OUSD(C) IT DEVELOPMENT INITIATIVES	21,353	19,353
		Find COTS solution		[-2,000]
128	0605070S	DOD ENTERPRISE SYSTEMS DEVELOPMENT AND DEMONSTRATION.	6,266	6,266
129	0605075D8Z	DCMO POLICY AND INTEGRATION	2,810	2,810
130	0605080S	DEFENSE AGENCY INITIATIVES (DAI)—FINANCIAL SYSTEM	24,436	24,436
131	0605090S	DEFENSE RETIRED AND ANNUITANT PAY SYSTEM (DRAS)	13,475	13,475
133	0605210D8Z	DEFENSE-WIDE ELECTRONIC PROCUREMENT CAPABILITIES	11,870	0
		Consolidate requirements		[-11,870]
134	0605294D8Z	TRUSTED & ASSURED MICROELECTRONICS	61,084	61,084
135	0303141K	GLOBAL COMBAT SUPPORT SYSTEM	2,576	2,576
136	0305304D8Z	DOD ENTERPRISE ENERGY INFORMATION MANAGEMENT (EEM).	3,669	3,669
137	0305310D8Z	CWMD SYSTEMS: SYSTEM DEVELOPMENT AND DEMONSTRATION.	8,230	8,230
		SUBTOTAL SYSTEM DEVELOPMENT AND DEMONSTRATION.	818,819	804,949
		MANAGEMENT SUPPORT		
138	0604774D8Z	DEFENSE READINESS REPORTING SYSTEM (DRRS)	6,941	6,941
139	0604875D8Z	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT	4,851	4,851
140	0604940D8Z	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT (CTEIP).	211,325	211,325
141	0604942D8Z	ASSESSMENTS AND EVALUATIONS	30,144	130,144
		Classified assessment		[100,000]
142	0605001E	MISSION SUPPORT	63,769	63,769
143	0605100D8Z	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETC)	91,057	91,057
144	0605104D8Z	TECHNICAL STUDIES, SUPPORT AND ANALYSIS	22,386	22,386
145	0605126J	JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION (JLAMO).	36,581	36,581
147	0605142D8Z	SYSTEMS ENGINEERING	37,622	37,622
148	0605151D8Z	STUDIES AND ANALYSIS SUPPORT—OSD	5,200	5,200
149	0605161D8Z	NUCLEAR MATTERS-PHYSICAL SECURITY	5,232	5,232
150	0605170D8Z	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION	12,583	12,583
151	0605200D8Z	GENERAL SUPPORT TO USD (INTELLIGENCE)	31,451	31,451
152	0605384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM	104,348	104,348
161	0605790D8Z	SMALL BUSINESS INNOVATION RESEARCH (SBIR)/ SMALL BUSINESS TECHNOLOGY TRANSFER.	2,372	2,372
162	0605798D8Z	DEFENSE TECHNOLOGY ANALYSIS	24,365	24,365
163	0605801KA	DEFENSE TECHNICAL INFORMATION CENTER (DTIC)	54,145	54,145
164	0605803SE	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING AND EVALUATION.	30,356	30,356
165	0605804D8Z	DEVELOPMENT TEST AND EVALUATION	20,571	25,571
		Software testing capabilities		[5,000]
166	0605898E	MANAGEMENT HQ—R&D	14,017	14,017
167	0605998KA	MANAGEMENT HQ—DEFENSE TECHNICAL INFORMATION CENTER (DTIC).	4,187	4,187
168	0606100D8Z	BUDGET AND PROGRAM ASSESSMENTS	3,992	3,992
169	0606225D8Z	ODNA TECHNOLOGY AND RESOURCE ANALYSIS	1,000	1,000
170	0203345D8Z	DEFENSE OPERATIONS SECURITY INITIATIVE (DOSI)	2,551	2,551
171	0204571J	JOINT STAFF ANALYTICAL SUPPORT	7,712	7,712
174	0303166J	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES	673	673
175	0303260D8Z	DEFENSE MILITARY DECEPTION PROGRAM OFFICE (DMDPO)	1,006	1,006
177	0305172K	COMBINED ADVANCED APPLICATIONS	16,998	16,998
180	0305245D8Z	INTELLIGENCE CAPABILITIES AND INNOVATION INVESTMENTS	18,992	18,992
181	0306310D8Z	CWMD SYSTEMS: RDT&E MANAGEMENT SUPPORT	1,231	1,231
183	0804767J	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION (CE2T2)—MHA.	44,500	44,500
184	0901598C	MANAGEMENT HQ—MDA	29,947	29,947
186	9999999999	CLASSIFIED PROGRAMS	63,312	63,312
187	0903235K	JOINT SERVICE PROVIDER (JSP)	5,113	5,113
		SUBTOTAL MANAGEMENT SUPPORT	1,010,530	1,115,530
		OPERATIONAL SYSTEM DEVELOPMENT		
188	0604130V	ENTERPRISE SECURITY SYSTEM (ESS)	4,565	4,565
189	0605127T	REGIONAL INTERNATIONAL OUTREACH (RIO) AND PARTNERSHIP FOR PEACE INFORMATION MANA.	1,871	1,871
190	0605147T	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SYSTEM (OHASIS).	298	298

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

Line	Program Element	Item	FY 2018 Request	Senate Authorized
191	0607210D8Z	INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT SUPPORT	10,882	10,882
192	0607310D8Z	CWMD SYSTEMS: OPERATIONAL SYSTEMS DEVELOPMENT	7,222	7,222
193	0607327T	GLOBAL THEATER SECURITY COOPERATION MANAGEMENT INFORMATION SYSTEMS (G-TSCMIS).	14,450	14,450
194	0607384BP	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS DEVELOPMENT).	45,677	45,677
195	0208043J	PLANNING AND DECISION AID SYSTEM (PDAS)	3,037	3,037
196	0208045K	CAI INTEROPERABILITY	59,490	59,490
198	0301144K	JOINT/ALLIED COALITION INFORMATION SHARING	6,104	6,104
202	0302016K	NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT	1,863	1,863
203	0302019K	DEFENSE INFO INFRASTRUCTURE ENGINEERING AND INTEGRATION.	21,564	21,564
204	0303126K	LONG-HAUL COMMUNICATIONS—DCS	15,428	15,428
205	0303131K	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN).	15,855	15,855
206	0303135G	PUBLIC KEY INFRASTRUCTURE (PKI)	4,811	4,811
207	0303136G	KEY MANAGEMENT INFRASTRUCTURE (KMI)	33,746	33,746
208	0303140D8Z	INFORMATION SYSTEMS SECURITY PROGRAM	9,415	9,415
209	0303140G	INFORMATION SYSTEMS SECURITY PROGRAM	227,652	227,652
210	0303150K	GLOBAL COMLAND AND CONTROL SYSTEM	42,687	42,687
211	0303153K	DEFENSE SPECTRUM ORGANIZATION	8,750	8,750
214	0303228K	JOINT INFORMATION ENVIRONMENT (JIE)	4,689	4,689
216	0303430K	FEDERAL INVESTIGATIVE SERVICES INFORMATION TECHNOLOGY.	50,000	50,000
222	0305103K	CYBER SECURITY INITIATIVE	1,686	1,686
227	0305186D8Z	POLICY R&D PROGRAMS	6,526	6,526
228	0305199D8Z	NET CENTRICITY	18,455	18,455
230	0305208BB	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	5,496	5,496
233	0305208K	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	3,049	3,049
236	0305327V	INSIDER THREAT	5,365	5,365
237	0305387D8Z	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM	2,071	2,071
243	0307577D8Z	INTELLIGENCE MISSION DATA (IMD)	13,111	13,111
245	0708012S	PACIFIC DISASTER CENTERS	1,770	1,770
246	0708047S	DEFENSE PROPERTY ACCOUNTABILITY SYSTEM	2,924	2,924
248	1105219BB	MQ-9 UAV	37,863	50,863
		MQ-9 Capability Enhancement		[13,000]
251	1160403BB	AVIATION SYSTEMS	259,886	273,386
		SOCOM requested transfer		[13,500]
252	1160405BB	INTELLIGENCE SYSTEMS DEVELOPMENT	8,245	8,245
253	1160408BB	OPERATIONAL ENHANCEMENTS	79,455	95,455
		UFR: Enhanced Precision Strike		[16,000]
254	1160431BB	WARRIOR SYSTEMS	45,935	45,935
255	1160432BB	SPECIAL PROGRAMS	1,978	1,978
256	1160434BB	UNMANNED ISR	31,766	31,766
257	1160480BB	SOF TACTICAL VEHICLES	2,578	2,578
258	1160483BB	MARITIME SYSTEMS	42,315	60,415
		SOCOM requested transfer		[12,800]
		UFR: Develop Dry Combat Submersible		[5,300]
259	1160489BB	GLOBAL VIDEO SURVEILLANCE ACTIVITIES	4,661	4,661
260	1160490BB	OPERATIONAL ENHANCEMENTS INTELLIGENCE	12,049	12,049
261	1203610K	TELEPORT PROGRAM	642	642
262	9999999999	CLASSIFIED PROGRAMS	3,689,646	3,689,646
		SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT	4,867,528	4,928,128
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, DW ..	20,490,902	21,658,510
		OPERATIONAL TEST & EVAL, DEFENSE MANAGEMENT SUPPORT		
1	0605118OTE	OPERATIONAL TEST AND EVALUATION	83,503	83,503
2	0605131OTE	LIVE FIRE TEST AND EVALUATION	59,500	59,500
3	0605814OTE	OPERATIONAL TEST ACTIVITIES AND ANALYSES	67,897	67,897
		SUBTOTAL MANAGEMENT SUPPORT	210,900	210,900
		TOTAL OPERATIONAL TEST & EVAL, DEFENSE	210,900	210,900
		UNDISTRIBUTED		
		UNDISTRIBUTED		
999	999999	UNDISTRIBUTED	0	64,100
		ERI costs transfer from OCO to base		[64,100]
		SUBTOTAL UNDISTRIBUTED	0	64,100
		TOTAL UNDISTRIBUTED	0	64,100
		TOTAL RDT&E	82,716,636	86,032,029

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 2018 Request	Senate Authorized
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY ADVANCED COMPONENT DEVELOPMENT & PROTO- TYPES				
55	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	15,000	15,000
60	0603747A	SOLDIER SUPPORT AND SURVIVABILITY	3,000	3,000
SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.			18,000	18,000
SYSTEM DEVELOPMENT & DEMONSTRATION				
122	0605032A	TRACTOR TIRE	5,000	5,000
125	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCM)	21,540	21,540
133	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT	30,100	30,100
147	0303032A	TROJAN—RH12	1,200	1,200
SUBTOTAL SYSTEM DEVELOPMENT & DEMONSTRA- TION.			57,840	57,840
OPERATIONAL SYSTEMS DEVELOPMENT				
203	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	15,000	15,000
222	0305204A	TACTICAL UNMANNED AERIAL VEHICLES	7,492	7,492
223	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS	15,000	15,000
228	0307665A	BIOMETRICS ENABLED INTELLIGENCE	6,036	6,036
SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT ...			43,528	43,528
TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY.			119,368	119,368
RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY ADVANCED COMPONENT DEVELOPMENT & PROTO- TYPES				
41	0603527N	RETRACT LARCH	22,000	22,000
81	0604272N	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM).	5,710	5,710
SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.			27,710	27,710
999999999		CLASSIFIED PROGRAMS	89,855	89,855
OPERATIONAL SYSTEMS DEVELOPMENT				
207	0204311N	INTEGRATED SURVEILLANCE SYSTEM	11,600	11,600
211	0204574N	CRYPTOLOGIC DIRECT SUPPORT	1,200	1,200
SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT ...			102,655	102,655
TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY.			130,365	130,365
RESEARCH, DEVELOPMENT, TEST & EVAL, AF ADVANCED COMPONENT DEVELOPMENT & PROTO- TYPES				
29	0603438F	SPACE CONTROL TECHNOLOGY	7,800	7,800
53	0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	5,400	5,400
SUBTOTAL ADVANCED COMPONENT DEVELOPMENT & PROTOTYPES.			13,200	13,200
999999999		CLASSIFIED PROGRAMS	112,408	112,408
OPERATIONAL SYSTEMS DEVELOPMENT				
196	0207277F	ISR INNOVATIONS	5,750	5,750
214	0208087F	AF OFFENSIVE CYBERSPACE OPERATIONS	4,000	4,000
SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT ...			122,158	122,158
TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, AF ..			135,358	135,358
RESEARCH, DEVELOPMENT, TEST & EVAL, DW ADVANCED TECHNOLOGY DEVELOPMENT				
24	0603122D8Z	COMBATING TERRORISM TECHNOLOGY SUPPORT	25,000	25,000
SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT			25,000	25,000
999999999		CLASSIFIED PROGRAMS	196,176	196,176
OPERATIONAL SYSTEM DEVELOPMENT				
253	1160408BB	OPERATIONAL ENHANCEMENTS	1,920	1,920
256	1160434BB	UNMANNED ISR	3,000	3,000

**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 2018 Request</i>	<i>Senate Authorized</i>
		SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT	201,096	201,096
		TOTAL RESEARCH, DEVELOPMENT, TEST & EVAL, DW	226,096	226,096
		UNDISTRIBUTED		
		UNDISTRIBUTED		
999	999999	UNDISTRIBUTED		-64,100
		<i>ERI costs transfer from OCO to base</i>		[-64,100]
		SUBTOTAL UNDISTRIBUTED		-64,100
		TOTAL UNDISTRIBUTED		-64,100
		TOTAL RDT&E	611,187	547,087