

**AMENDMENT IN THE NATURE OF A SUBSTITUTE
TO H.R. 3578
OFFERED BY MR. RATCLIFFE OF TEXAS**

Strike all after the enacting clause and insert the following:

1 SECTION 1. SHORT TITLE.

2 This Act may be cited as the “DHS Science and
3 Technology Reform and Improvement Act of 2015”.

**4 SEC. 2. SCIENCE AND TECHNOLOGY IN SUPPORT OF HOME-
5 LAND SECURITY.**

6 (a) IN GENERAL.—Title III of the Homeland Secu-
7 rity Act of 2002 is amended—

8 (1) in section 301 (6 U.S.C. 181)—

9 (A) by striking “There” and inserting the
10 following new subsection:

11 “(a) IN GENERAL.—There”; and

12 (B) by adding at the end the following new
13 subsection:

14 “(b) MISSION.—The Directorate of Science and
15 Technology shall be the primary research, development,
16 testing, and evaluation arm of the Department, respon-
17 sible for coordinating the research, development, testing,
18 and evaluation of the Department to strengthen the secu-

1 rity and resiliency of the United States. The Directorate
2 shall—

3 “(1) develop and deliver knowledge, analyses,
4 and innovative solutions that are responsive to
5 homeland security capability gaps identified by com-
6 ponents and offices of the Department, the first re-
7 sponder community, and the Homeland Security En-
8 terprise (as such term is defined in section 322) and
9 that can be integrated into operations of the Depart-
10 ment;

11 “(2) seek innovative, system-based solutions to
12 complex homeland security problems; and

13 “(3) build partnerships and leverage technology
14 solutions developed by other Federal agencies and
15 laboratories, State, local, and tribal governments,
16 universities, and the private sector.”;

17 (2) in section 302 (6 U.S.C. 182)—

18 (A) in the matter preceding paragraph (1),
19 by striking “The Secretary, acting through the
20 Under Secretary for Science and Technology,
21 shall” and inserting the following new sub-
22 section:

23 “(a) IN GENERAL.—The Secretary, acting through
24 the Under Secretary for Science and Technology, shall

1 carry out the mission described in subsection (b) of section
2 301 and shall”;

3 (B) in subsection (a), as so amended by
4 subparagraph (A) of this paragraph—

5 (i) in paragraph (1), by inserting
6 “and serving as the senior scientific advi-
7 sor to the Secretary” before the semicolon
8 at the end;

9 (ii) in paragraph (2)—

10 (I) by striking “national”;

11 (II) by striking “biological,,” and
12 inserting “biological,”; and

13 (III) by inserting “that may
14 serve as a basis of a national strat-
15 egy” after “terrorist threats”;

16 (iii) in paragraph (3), by striking “the
17 Under Secretary for Intelligence and Anal-
18 ysis and the Assistant Secretary for Infra-
19 structure Protection” and inserting “com-
20 ponents and offices of the Department”;

21 (iv) in paragraph (4), by striking “ex-
22 cept that such responsibility does not ex-
23 tend to human health-related research and
24 development activities” and inserting the
25 following: “including coordinating with rel-

1 evant components and offices of the De-
2 partment appropriate to—

3 “(A) identify and prioritize technical capa-
4 bility requirements and create solutions that in-
5 clude researchers, the private sector, and oper-
6 ational end users, and

7 “(B) develop capabilities to address issues
8 on research, development, testing, evaluation,
9 technology, and standards for the first re-
10 sponder community,

11 except that such responsibility does not extend to
12 the human health-related research and development
13 activities;”.

14 (v) in paragraph (5)(A), by striking
15 “biological,,” and inserting “biological,,”;

16 (vi) by amending paragraph (12) to
17 read as follows:

18 “(12) coordinating and integrating all research,
19 development, demonstration, testing, and evaluation
20 activities of the Department, including through a
21 centralized Federal clearinghouse established pursu-
22 ant to paragraph (1) of section 313(b) for informa-
23 tion relating to technologies that would further the
24 mission of the Department, and providing advice, as
25 necessary, regarding major acquisition programs;”.

1 (vii) in paragraph (13), by striking
2 “and” at the end;

3 (viii) in paragraph (14), by striking
4 the period at the end and inserting a semi-
5 colon; and

6 (ix) by adding at the end the following
7 new paragraphs:

8 “(15) establishing a process that—

9 “(A) includes consideration by Directorate
10 leadership, senior component leadership, first
11 responders, and outside expertise;

12 “(B) is strategic, transparent, and repeat-
13 able with a goal of continuous improvement;

14 “(C) through which research and develop-
15 ment projects undertaken by the Directorate
16 are assessed on a regular basis; and

17 “(D) includes consideration of metrics to
18 ensure research and development projects meet
19 Directorate and Department goals and inform
20 departmental budget and program planning;

21 “(16) developing and overseeing the administra-
22 tion of guidelines for periodic external review of de-
23 partmental research and development programs or
24 activities, including through—

1 “(A) consultation with experts, including
2 scientists and practitioners, regarding the re-
3 search and development activities conducted by
4 the Directorate of Science and Technology; and

5 “(B) biennial independent, external re-
6 view—

7 “(i) initially at the division level; or

8 “(ii) when divisions conduct multiple
9 programs focused on significantly different
10 subjects, at the program level; and

11 “(17) partnering with components and offices
12 of the Department to develop and deliver knowledge,
13 analyses, and innovative solutions that are respon-
14 sive to identified homeland security capability gaps
15 and raise the science-based, analytic capability and
16 capacity of appropriate individuals throughout the
17 Department by providing guidance on how to better
18 identify homeland security capability gaps that may
19 be addressed through a technological solution and by
20 partnering with such components and offices to—

21 “(A) support technological assessments of
22 major acquisition programs throughout the ac-
23 quisition lifecycle;

24 “(B) help define appropriate technological
25 requirements and perform feasibility analysis;

1 “(C) assist in evaluating new and emerging
2 technologies against capability gaps;

3 “(D) support evaluation of alternatives;

4 “(E) improve the use of technology De-
5 partment-wide; and

6 “(F) provide technical assistance in the de-
7 velopment of acquisition lifecycle cost for tech-
8 nologies; and

9 “(18) acting as a coordinating office for tech-
10 nology development for the Department by helping
11 components and offices define technological require-
12 ments, and building partnerships with appropriate
13 entities (such as within the Department and with
14 other Federal agencies and laboratories, State, local,
15 and tribal governments, universities, and the private
16 sector) to help each such component and office at-
17 tain the technology solutions it needs.”; and

18 (C) by adding at the end the following new
19 subsections:

20 “(b) REVIEW OF RESPONSIBILITIES.—Not later than
21 180 days after the date of the enactment of this sub-
22 section, the Under Secretary for Science and Technology
23 shall submit to the appropriate congressional committees
24 a report on the implementation of paragraphs (2) (includ-
25 ing how the policy and strategic plan under such para-

1 graph may serve as a basis for a national strategy referred
2 to in such paragraph), (11), (12), (13), (16), and (17)
3 of subsection (a).”;

4 (3) in section 303(1) (6 U.S.C. 183(1)), by
5 striking subparagraph (F);

6 (4) in section 305 (6 U.S.C. 185)—

7 (A) by striking “The” and inserting the
8 following new subsection:

9 “(a) ESTABLISHMENT.—The”; and

10 (B) by adding at the end the following new
11 subsection:

12 “(b) CONFLICTS OF INTEREST.—The Secretary shall
13 review and revise, as appropriate, the policies of the De-
14 partment relating to personnel conflicts of interest to en-
15 sure that such policies specifically address employees of
16 federally funded research and development centers estab-
17 lished pursuant to subsection (a) who are in a position
18 to make or materially influence research findings or agen-
19 cy decision making.”;

20 (5) in section 306 (6 U.S.C. 186)—

21 (A) in subsection (c), by adding at the end
22 the following new sentence: “If such regulations
23 are issued, the Under Secretary shall report to
24 the appropriate congressional committees prior
25 to such issuance.”; and

1 (B) by amending subsection (d) to read as
2 follows:

3 “(d) PERSONNEL.—In hiring personnel for the Direc-
4 torate of Science and Technology, the Secretary shall have
5 the hiring and management authorities described in sec-
6 tion 1101 of the Strom Thurmond National Defense Au-
7 thorization Act for Fiscal Year 1999 (5 U.S.C. 3104 note;
8 Public Law 105–261). The term of appointments for em-
9 ployees under subsection (c)(1) of such section may not
10 exceed five years before the granting of any extension
11 under subsection (c)(2) of such section.”;

12 (6) in section 308 (6 U.S.C. 188)—

13 (A) in subsection (b)(2)(B)—

14 (i) in clause (iv), by striking “and nu-
15 clear countermeasures or detection” and
16 inserting “nuclear, and explosives counter-
17 measures or detection”; and

18 (ii) by adding after clause (xiv) the
19 following new clause:

20 “(xv) Cybersecurity.”; and

21 (B) by adding at the end the following new
22 subsection:

23 “(d) TEST, EVALUATION, AND STANDARDS DIVI-
24 SION.—

1 “(1) ESTABLISHMENT.—There is established in
2 the Directorate of Science and Technology a Test,
3 Evaluation, and Standards Division.

4 “(2) DIRECTOR.—The Test, Evaluation, and
5 Standards Division shall be headed by a Director of
6 Test, Evaluation, and Standards, who shall be ap-
7 pointed by the Secretary and report to the Under
8 Secretary for Science and Technology.

9 “(3) RESPONSIBILITIES, AUTHORITIES, AND
10 FUNCTIONS.—The Director of Test, Evaluation, and
11 Standards—

12 “(A) through the Under Secretary for
13 Science and Technology, serve as an adviser to
14 the Secretary and the Under Secretary of Man-
15 agement on all test and evaluation or standards
16 activities in the Department; and

17 “(B) shall—

18 “(i) establish and update as necessary
19 test and evaluation policies for the Depart-
20 ment, including policies to ensure that
21 operational testing is done at facilities that
22 already have relevant and appropriate safe-
23 ty and material certifications to the extent
24 such facilities are available;

1 “(ii) oversee and ensure that adequate
2 test and evaluation activities are planned
3 and conducted by or on behalf of compo-
4 nents and offices of the Department with
5 respect to major acquisition programs of
6 the Department, as designated by the Sec-
7 retary, based on risk, acquisition level, nov-
8 elty, complexity, and size of any such ac-
9 quisition program, or as otherwise estab-
10 lished in statute;

11 “(iii) review major acquisition pro-
12 gram test reports and test data to assess
13 the adequacy of test and evaluation activi-
14 ties conducted by or on behalf of compo-
15 nents and offices of the Department, in-
16 cluding test and evaluation activities
17 planned or conducted pursuant to clause
18 (ii); and

19 “(iv) review available test and evalua-
20 tion infrastructure to determine whether
21 the Department has adequate resources to
22 carry out its testing and evaluation respon-
23 sibilities, as established under this title.

1 “(4) LIMITATION.—The Test, Evaluation, and
2 Standards Division is not required to carry out oper-
3 ational testing of major acquisition programs.

4 “(5) EVALUATION OF DEPARTMENT OF DE-
5 FENSE TECHNOLOGIES.—The Director of Test,
6 Evaluation, and Standards may evaluate tech-
7 nologies currently in use or being developed by the
8 Department of Defense to assess whether such tech-
9 nologies can be leveraged to address homeland secu-
10 rity capability gaps.”;

11 (7) in section 309(a) (6 U.S.C. 189(a)), by add-
12 ing at the end the following new paragraph:

13 “(3) TREATMENT OF CERTAIN FUNDS.—Not-
14 withstanding any other provision of law, any funds
15 provided to a Department of Energy national labora-
16 tory by the Department may not be treated as an
17 assisted acquisition.”;

18 (8) in section 310 (6 U.S.C. 190), by adding at
19 the end the following new subsection:

20 “(e) SUCCESSOR FACILITY.—Any successor facility
21 to the Plum Island Animal Disease Center, including the
22 National Bio and Agro-Defense Facility (NBAF) under
23 construction as of the date of the enactment of this sub-
24 section, which is intended to the replace the Plum Island
25 Animal Disease Center shall be subject to the require-

1 ments of this section in the same manner and to the same
2 extent as the Plum Island Animal Disease Center under
3 this section.”;

4 (9) in section 311 (6 U.S.C. 191)—

5 (A) in subsection (b)—

6 (i) in paragraph (1)—

7 (I) by striking “20 members”
8 and inserting “not fewer than 15 and
9 not more than 30”; and

10 (II) by inserting “academia, na-
11 tional labs, private industry, and”
12 after “representatives of”;

13 (ii) by redesignating paragraph (2) as
14 paragraph (3); and

15 (iii) by inserting after paragraph (1)
16 the following new paragraph:

17 “(2) SUBCOMMITTEES.—The Advisory Com-
18 mittee may establish subcommittees that focus on
19 research and development challenges, as appro-
20 priate.”;

21 (B) in subsection (c)—

22 (i) in paragraph (1), by inserting “on
23 a rotating basis” before the period at the
24 end;

1 (ii) by striking paragraph (2) and re-
2 designating paragraph (3) as paragraph
3 (2); and

4 (iii) in paragraph (2), as so redesign-
5 nated, by striking “be appointed” and in-
6 serting “serve”;

7 (C) in subsection (e), in the second sen-
8 tence, by striking “the call of”;

9 (D) in subsection (h)—

10 (i) in paragraph (1)—

11 (I) in the first sentence—

12 (aa) by striking “render”
13 and inserting “submit”; and

14 (bb) by striking “Congress”
15 and inserting “the appropriate
16 congressional committees”;

17 (II) in the second sentence, by
18 inserting “, and incorporate the find-
19 ings and recommendations of the Ad-
20 visory Committee subcommittees,” be-
21 fore “during”; and

22 (ii) in paragraph (2)—

23 (I) striking “render” and insert-
24 ing “submit”; and

1 (II) by striking “Congress” and
2 inserting “the appropriate congress-
3 sional committees”;

4 (E) in subsection (i), by inserting “, except
5 that the Advisory Committee shall file a charter
6 with Congress every two years in accordance
7 with subsection (b)(2) of such section (14)”;

8 (F) in subsection (j), by striking “2008”
9 and inserting “2020”;

10 (10) in section 313 (6 U.S.C. 193)—

11 (A) by redesignating subsection (e) as sub-
12 section (d); and

13 (B) by inserting after subsection (b) the
14 following new subsection:

15 “(c) APPLICATION OF PROGRAM.—The Secretary,
16 acting through the Under Secretary for Science and Tech-
17 nology, shall use the program established under subsection
18 (a) to—

19 “(1) enhance the cooperation between compo-
20 nents and offices of the Department on projects that
21 have similar goals, timelines, or outcomes;

22 “(2) ensure the coordination of technologies to
23 eliminate unnecessary duplication of research and
24 development;

1 “(3) include protocols to assess—

2 “(A) off-the-shelf technology to determine
3 if an identified homeland security capability gap
4 can be addressed through the acquisition proc-
5 ess instead of commencing research and devel-
6 opment of technology to address such capability
7 gap; and

8 “(B) communication and collaboration for
9 research and development activities pursued by
10 other executive agencies, to determine if tech-
11 nology can be leveraged to identify and address
12 homeland security capability gaps and avoid un-
13 necessary duplication of efforts;

14 “(4) provide for documented and validated re-
15 search and development requirements;

16 “(5) strengthen first responder participation to
17 identify and prioritize homeland security techno-
18 logical gaps, including by—

19 “(A) soliciting feedback from appropriate
20 national associations and advisory groups rep-
21 resenting the first responder community and
22 first responders within the components and of-
23 fices of the Department; and

24 “(B) establishing and promoting a publicly
25 accessible portal to allow the first responder

1 community to help the Directorate of Science
2 and Technology develop homeland security re-
3 search and development goals;

4 “(6) institute a mechanism to publicize the De-
5 partment’s homeland security technology priorities
6 for the purpose of informing Federal, State, and
7 local governments, first responders, and the private
8 sector;

9 “(7) establish considerations to be used by the
10 Directorate in selecting appropriate research enti-
11 ties, including the national laboratories, federally
12 funded research and development centers, university-
13 based centers, and the private sector, to carry out
14 research and development requirements;

15 “(8) incorporate feedback derived as a result of
16 the mechanism established in section 323, ensuring
17 the Directorate is utilizing regular communication
18 with components and offices of the Department; and

19 “(9) include any other criteria or measures the
20 Under Secretary for Science and Technology con-
21 siders necessary for the identification and
22 prioritization of research requirements.

23 **“SEC. 319. DEVELOPMENT OF DIRECTORATE STRATEGY**
24 **AND RESEARCH AND DEVELOPMENT PLAN.**

25 “(a) STRATEGY.—

1 “(1) IN GENERAL.—Not later than one year
2 after the date of the enactment of this section, the
3 Under Secretary for Science and Technology shall
4 develop and submit to the appropriate congressional
5 committees a strategy to guide the activities of the
6 Directorate of Science and Technology. Such strat-
7 egy shall be updated at least once every five years
8 and shall identify priorities and objectives for the de-
9 velopment of science and technology solutions and
10 capabilities addressing homeland security operational
11 needs. Such strategy shall include the coordination
12 of such priorities and activities within the Depart-
13 ment. Such strategy shall take into account the pri-
14 orities and needs of stakeholders in the Homeland
15 Security Enterprise (as such term is defined in sec-
16 tion 322). In developing such strategy, efforts shall
17 be made to support collaboration and avoid unneces-
18 sary duplication across the Federal Government.
19 Such strategy shall be risk-based and aligned with
20 other strategic guidance provided by—

21 “(A) the National Strategy for Homeland
22 Security;

23 “(B) the Quadrennial Homeland Security
24 Review; and

1 “(C) any other relevant strategic planning
2 documents, as determined by the Under Sec-
3 retary.

4 “(2) CONTENTS.—The strategy required under
5 paragraph (1) shall be prepared in accordance with
6 applicable Federal requirements and guidelines, and
7 shall include the following:

8 “(A) An identification of the long-term
9 strategic goals, objectives, and metrics of the
10 Directorate.

11 “(B) A technology transition strategy for
12 the programs of the Directorate.

13 “(C) Short- and long-term strategic goals,
14 and objectives for increasing the number of des-
15 ignations and certificates issued under subtitle
16 G of title VIII, including cybersecurity tech-
17 nologies that could significantly reduce, or miti-
18 gate the effects of, cybersecurity risks (as such
19 term is defined in subsection (a)(1) of the sec-
20 ond section 226, relating to the national cyber-
21 security and communications integration cen-
22 ter), without compromising the quality of the
23 evaluation of applications for such designations
24 and certificates.

1 “(b) FIVE-YEAR RESEARCH AND DEVELOPMENT
2 PLAN.—

3 “(1) IN GENERAL.—The Under Secretary for
4 Science and Technology shall develop, and update at
5 least once every five years, a five-year research and
6 development plan for the activities of the Directorate
7 of Science and Technology. The Under Secretary
8 shall develop the first such plan by the date that is
9 not later than one year after the date of the enact-
10 ment of this section.

11 “(2) CONTENTS.—Each five-year research and
12 development plan developed and revised under sub-
13 section (a) shall—

14 “(A) define the Directorate of Science and
15 Technology’s research, development, testing,
16 and evaluation activities, priorities, performance
17 metrics, and key milestones and deliverables
18 for, as the case may be, the five-fiscal-year pe-
19 riod from 2016 through 2020, and for each
20 five-fiscal-year period thereafter;

21 “(B) describe, for the activities of the
22 strategy developed under subsection (a), the
23 planned annual funding levels for the period
24 covered by each such five-year research and de-
25 velopment plan;

1 “(C) indicate joint investments with other
2 Federal partners where applicable;

3 “(D) analyze how the research programs of
4 the Directorate support achievement of the
5 strategic goals and objectives identified in the
6 strategy required under subsection (a);

7 “(E) describe how the activities and pro-
8 grams of the Directorate meet the requirements
9 or homeland security capability gaps identified
10 by customers within and outside of the Depart-
11 ment, including the first responder community;
12 and

13 “(F) describe the policies of the Direc-
14 torate regarding the management, organization,
15 and personnel of the Directorate.

16 “(3) SCOPE.—The Under Secretary for Science
17 and Technology shall ensure that each five-year re-
18 search and development plan developed and revised
19 under subsection (a)—

20 “(A) reflects input from a wide range of
21 stakeholders; and

22 “(B) takes into account how research and
23 development by other Federal, State, private
24 sector, and nonprofit institutions contributes to
25 the achievement of the priorities identified in

1 each plan, and avoids unnecessary duplication
2 with such efforts.

3 “(4) REPORTS.—At the time the President sub-
4 mits each annual budget request under section
5 1105(a) of title 31, United States Code, the Under
6 Secretary for Science and Technology shall submit
7 to the appropriate congressional committees a report
8 on the status and results to date of implementation
9 of the current five-year research and development
10 plan, including—

11 “(A) a summary of the research and devel-
12 opment activities for the previous fiscal year in
13 each topic area, including such activities to ad-
14 dress homeland security risks, including
15 threats, vulnerabilities, and consequences, and a
16 summary of the coordination activities under-
17 taken by the Directorate of Science and Tech-
18 nology for components and offices of the De-
19 partment, together with the results of the proc-
20 ess specified in paragraph (15) of section 302;

21 “(B) clear links between the Directorate’s
22 budget and each topic area or program, includ-
23 ing those topic areas or programs to address
24 homeland security risks, including threats,
25 vulnerabilities, and consequences, specifying

1 which topic areas or programs fall under which
2 budget lines, and clear links between Direc-
3 torate coordination work and priorities and an-
4 nual expenditures for such work and priorities,
5 including joint investments with other Federal
6 partners, where applicable;

7 “(C) an assessment of progress of the re-
8 search and development activities based on the
9 performance metrics and milestones set forth in
10 such plan; and

11 “(D) any changes to such plan.

12 **“SEC. 320. MONITORING OF PROGRESS.**

13 “(a) IN GENERAL.—The Under Secretary for Science
14 and Technology shall establish and utilize a system to
15 track the progress of the research, development, testing,
16 and evaluation activities undertaken by the Directorate of
17 Science and Technology, and shall provide to the appro-
18 priate congressional committees and customers of such ac-
19 tivities, at a minimum on a biannual basis, regular up-
20 dates on such progress.

21 “(b) REQUIREMENTS.—In order to provide the
22 progress updates required under subsection (a), the Under
23 Secretary for Science and Technology shall develop a sys-
24 tem that—

1 “(1) monitors progress toward project mile-
2 stones identified by the Under Secretary;

3 “(2) maps progress toward deliverables identi-
4 fied in each five-year research and development plan
5 required under section 319(b);

6 “(3) generates up-to-date reports to customers
7 that transparently disclose the status and progress
8 of research, development, testing, and evaluation ef-
9 forts of the Directorate of Science and Technology;
10 and

11 “(4) allows the Under Secretary to report the
12 number of products and services developed by the
13 Directorate that have been transitioned into acquisi-
14 tion programs and resulted in successfully fielded
15 technologies.

16 “(c) EVALUATION METHODS.—

17 “(1) EXTERNAL INPUT, CONSULTATION, AND
18 REVIEW.—The Under Secretary for Science and
19 Technology shall implement procedures to engage
20 outside experts to assist in the evaluation of the
21 progress of research, development, testing, and eval-
22 uation activities of the Directorate of Science and
23 Technology, including through—

24 “(A) consultation with experts, including
25 scientists and practitioners, to gather inde-

1 pendent expert peer opinion and advice on a
2 project or on specific issues or analyses con-
3 ducted by the Directorate; and

4 “(B) periodic, independent, external review
5 to assess the quality and relevance of the Direc-
6 torate’s programs and projects.

7 “(2) COMPONENT FEEDBACK.—The Under Sec-
8 retary for Science and Technology shall establish a
9 formal process to collect feedback from customers of
10 the Directorate of Science and Technology on the
11 performance of the Directorate that includes—

12 “(A) appropriate methodologies through
13 which the Directorate can assess the quality
14 and usefulness of technology and services deliv-
15 ered by the Directorate;

16 “(B) development of metrics for measuring
17 the usefulness of any technology or service pro-
18 vided by the Directorate; and

19 “(C) standards for high-quality customer
20 service.

21 **“SEC. 321. HOMELAND SECURITY SCIENCE AND TECH-**
22 **NOLOGY FELLOWS PROGRAM.**

23 “(a) ESTABLISHMENT.—The Secretary, acting
24 through the Under Secretary for Science and Technology
25 and the Under Secretary for Management, shall establish

1 a fellows program, to be known as the Homeland Security
2 Science and Technology Fellows Program (in this section
3 referred to as the ‘Program’), under which the Under Sec-
4 retary for Science and Technology, in coordination with
5 the Office of University Programs of the Department,
6 shall facilitate the placement of fellows in relevant sci-
7 entific or technological fields for up to two years in compo-
8 nents and offices of the Department with a need for sci-
9 entific and technological expertise.

10 “(b) UTILIZATION OF FELLOWS.—

11 “(1) IN GENERAL.—Under the Program, the
12 Department may employ fellows—

13 “(A) for the use of the Directorate of
14 Science and Technology; or

15 “(B) for the use of a component or office
16 of the Department outside the Directorate,
17 under a memorandum of agreement with the
18 head of such a component or office under which
19 such component or office will reimburse the Di-
20 rectorate for the costs of such employment.

21 “(2) RESPONSIBILITIES.—Under an agreement
22 referred to in subparagraph (B) of paragraph (1)—

23 “(A) the Under Secretary for Science and
24 Technology and the Under Secretary for Man-
25 agement shall—

1 “(i) solicit and accept applications
2 from individuals who are currently enrolled
3 in or who are graduates of postgraduate
4 programs in scientific and engineering
5 fields related to the promotion of securing
6 the homeland;

7 “(ii) screen applicants and interview
8 them as appropriate to ensure that such
9 applicants possess the appropriate level of
10 scientific and engineering expertise and
11 qualifications;

12 “(iii) provide a list of qualified appli-
13 cants to the heads of components and of-
14 fices of the Department seeking to utilize
15 qualified fellows;

16 “(iv) subject to the availability of ap-
17 propriations, pay financial compensation to
18 such fellows;

19 “(v) coordinate with the Chief Secu-
20 rity Officer to facilitate and expedite provi-
21 sion of security and suitability clearances
22 to such fellows, as appropriate; and

23 “(vi) otherwise administer all aspects
24 of the employment of such fellows with the
25 Department; and

1 “(B) the head of the component or office
2 of the Department utilizing a fellow shall—

3 “(i) select such fellow from the list of
4 qualified applicants provided by the Under
5 Secretary;

6 “(ii) reimburse the Under Secretary
7 for the costs of employing such fellow, in-
8 cluding administrative costs; and

9 “(iii) be responsible for the day-to-day
10 management of such fellow.

11 “(c) APPLICATIONS FROM NONPROFIT ORGANIZA-
12 TIONS.—The Under Secretary for Science and Technology
13 may accept an application under subsection (b)(2)(A) that
14 is submitted by a nonprofit organization on behalf of indi-
15 viduals whom such nonprofit organization has determined
16 may be qualified applicants under the Program.

17 **“SEC. 322. CYBERSECURITY RESEARCH AND DEVELOP-**
18 **MENT.**

19 “(a) IN GENERAL.—The Under Secretary for Science
20 and Technology shall support research, development, test-
21 ing, evaluation, and transition of cybersecurity technology,
22 including fundamental research to improve the sharing of
23 information, analytics, and methodologies related to cyber-
24 security risks and incidents, consistent with current law.

1 “(b) ACTIVITIES.—The research and development
2 supported under subsection (a) shall serve the components
3 of the Department and shall—

4 “(1) advance the development and accelerate
5 the deployment of more secure information systems;

6 “(2) improve and create technologies for detect-
7 ing attacks or intrusions, including real-time contin-
8 uous diagnostics and real-time analytic technologies;

9 “(3) improve and create mitigation and recov-
10 ery methodologies, including techniques and policies
11 for real-time containment of attacks, and develop-
12 ment of resilient networks and information systems;

13 “(4) develop and support infrastructure and
14 tools to support cybersecurity research and develop-
15 ment efforts, including modeling, testbeds, and data
16 sets for assessment of new cybersecurity tech-
17 nologies;

18 “(5) assist the development and support of
19 technologies to reduce vulnerabilities in industrial
20 control systems; and

21 “(6) develop and support cyber forensics and
22 attack attribution.

23 “(c) COORDINATION.—In carrying out this section,
24 the Under Secretary for Science and Technology shall co-
25 ordinate activities with—

1 “(1) the Under Secretary appointed pursuant to
2 section 103(a)(1)(H); and

3 “(2) the heads of other relevant Federal depart-
4 ments and agencies, including the National Science
5 Foundation, the Defense Advanced Research
6 Projects Agency, the Information Assurance Direc-
7 torate of the National Security Agency, the National
8 Institute of Standards and Technology, the Depart-
9 ment of Commerce, the Networking and Information
10 Technology Research and Development Program Of-
11 fice, Sector Specific Agencies for critical infrastruc-
12 ture, and other appropriate working groups estab-
13 lished by the President to identify unmet needs and
14 cooperatively support activities, as appropriate.

15 “(d) TRANSITION TO PRACTICE.—The Under Sec-
16 retary for Science and Technology shall support projects
17 through the full life cycle of such projects, including re-
18 search, development, testing, evaluation, pilots, and tran-
19 sitions. The Under Secretary shall identify mature tech-
20 nologies that address existing imminent cybersecurity gaps
21 in public or private information systems and networks of
22 information systems, identify and support necessary im-
23 provements identified during pilot programs and testing
24 and evaluation activities, and introduce new cybersecurity
25 technologies throughout the Homeland Security Enter-

1 prise through partnerships and commercialization. The
2 Under Secretary shall target federally funded cybersecu-
3 rity research that demonstrates a high probability of suc-
4 cessful transition to the commercial market within two
5 years and that is expected to have notable impact on the
6 cybersecurity of the information systems or networks of
7 information systems of the United States.

8 “(e) DEFINITIONS.—In this section:

9 “(1) CYBERSECURITY RISK.—The term ‘cyber-
10 security risk’ has the meaning given such term in
11 the second section 226, relating to the national cy-
12 bersecurity and communications integration center.

13 “(2) HOMELAND SECURITY ENTERPRISE.—The
14 term ‘Homeland Security Enterprise’ means relevant
15 governmental and nongovernmental entities involved
16 in homeland security, including Federal, State, local,
17 and tribal government officials, private sector rep-
18 resentatives, academics, and other policy experts.

19 “(3) INCIDENT.—The term ‘incident’ has the
20 meaning given such term in the second section 226,
21 relating to the national cybersecurity and commu-
22 nications integration center.

23 “(4) INFORMATION SYSTEM.—The term ‘infor-
24 mation system’ has the meaning given that term in
25 section 3502(8) of title 44, United States Code.

1 **“SEC. 323. INTEGRATED PRODUCT TEAMS.**

2 “(a) IN GENERAL.—The Secretary shall establish in-
3 tegrated product teams to serve as a central mechanism
4 for the Department to identify, coordinate, and align re-
5 search and development efforts with departmental mis-
6 sions. Each team shall be managed by the Under Sec-
7 retary for Science and Technology and the relevant senior
8 leadership of operational components, and shall be respon-
9 sible for the following:

10 “(1) Identifying and prioritizing homeland secu-
11 rity capability gaps within a specific mission area
12 and technological solutions to address such gaps.

13 “(2) Identifying ongoing departmental research
14 and development activities and component acquisi-
15 tions of technologies that are outside of depart-
16 mental research and development activities to ad-
17 dress a specific mission area.

18 “(3) Assessing the appropriateness of a tech-
19 nology to address a specific mission area.

20 “(4) Identifying unnecessary redundancy in de-
21 partmental research and development activities with-
22 in a specific mission area.

23 “(5) Informing the Secretary and the annual
24 budget process regarding whether certain techno-
25 logical solutions are able to address homeland secu-
26 rity capability gaps within a specific mission area.

1 “(b) CONGRESSIONAL OVERSIGHT.—Not later than
2 two years after the date of enactment of this section, the
3 Secretary shall provide to the appropriate congressional
4 committees information on the impact and effectiveness
5 of the mechanism described in subsection (a) on research
6 and development efforts, component relationships, and
7 how the process has informed the research and develop-
8 ment budget and enhanced decision making, including ac-
9 quisition decision making, at the Department. The Sec-
10 retary shall seek feedback from the Under Secretary for
11 Science and Technology, Under Secretary for Manage-
12 ment, and the senior leadership of operational components
13 regarding the impact and effectiveness of such mechanism
14 and include such feedback in the information provided
15 under this subsection.”.

16 (b) EFFECTIVE DATE.—The amendments made by
17 subsection (a) shall take effect on the date that is 30 days
18 after the date of the enactment of this section.

19 (c) CLERICAL AMENDMENT.—The table of contents
20 in section 1(b) of the Homeland Security Act of 2002 is
21 amended by inserting after the item relating to section
22 317 the following new items:

“Sec. 318. Identification and prioritization of research and development.

“Sec. 319. Development of Directorate strategy and research and development
plan.

“Sec. 320. Monitoring of progress.

“Sec. 321. Homeland Security Science and Technology Fellows Program.

“Sec. 322. Cybersecurity research and development.

“Sec. 323. Integrated product teams.”.

1 (d) RESEARCH AND DEVELOPMENT PROJECTS.—
2 Section 831 of the Homeland Security Act of 2002 (6
3 U.S.C. 391) is amended—

4 (1) in subsection (a)—

5 (A) in the matter preceding paragraph (1),
6 by striking “2015” and inserting “2020”;

7 (B) in paragraph (1), by striking the last
8 sentence; and

9 (C) by adding at the end the following new
10 paragraph:

11 “(3) PRIOR APPROVAL.—In any case in which
12 a component or office of the Department seeks to
13 utilize the authority under this section, such office
14 or component shall first receive prior approval from
15 the Secretary by providing to the Secretary a pro-
16 posal that includes the rationale for the use of such
17 authority, the funds to be spent on the use of such
18 authority, and the expected outcome for each project
19 that is the subject of the use of such authority. In
20 such a case, the authority for evaluating the pro-
21 posal may not be delegated by the Secretary to any-
22 one other than the Under Secretary for Manage-
23 ment.”;

24 (2) in subsection (c)—

1 (A) in paragraph (1), in the matter pre-
2 ceding subparagraph (A), by striking “2015”
3 and inserting “2020”; and

4 (B) by amending paragraph (2) to read as
5 follows:

6 “(2) REPORT.—The Secretary shall annually
7 submit to the appropriate congressional committees
8 a report detailing the projects for which the author-
9 ity granted by subsection (a) was used, the rationale
10 for such use, the funds spent using such authority,
11 the extent of cost-sharing for such projects among
12 Federal and non-federal sources, the extent to which
13 use of such authority has addressed a homeland se-
14 curity capability gap identified by the Department,
15 the total amount of payments, if any, that were re-
16 ceived by the Federal Government as a result of the
17 use of such authority during the period covered by
18 each such report, the outcome of each project for
19 which such authority was used, and the results of
20 any audits of such projects.”; and

21 (3) by adding at the end the following new sub-
22 sections:

23 “(e) TRAINING.—The Secretary shall develop a train-
24 ing program for acquisitions staff in the use of other

1 transaction authority to help ensure the appropriate use
2 of such authority.

3 “(f) OTHER TRANSACTION AUTHORITY DEFINED.—
4 In this section, the term ‘other transaction authority’
5 means authority under subsection (a).”.

6 (e) AMENDMENT TO DEFINITION.—Paragraph (2) of
7 subsection (a) of the second section 226 of the Homeland
8 Security Act of 2002 (6 U.S.C. 148; relating to the na-
9 tional cybersecurity and communications integration cen-
10 ter) is amended to read as follows:

11 “(2) INCIDENT.—The term ‘incident’ means an
12 occurrence that actually or imminently jeopardizes,
13 without lawful authority, the integrity, confiden-
14 tiality, or availability of information on an informa-
15 tion system, or actually or imminently jeopardizes,
16 without lawful authority, an information system.”.

17 (f) PRIZE AUTHORITY.—The Under Secretary for
18 Science and Technology of the Department of Homeland
19 Security shall utilize, as appropriate, prize authority
20 granted pursuant to current law.

21 (g) PROHIBITION ON NEW FUNDING.—No funds are
22 authorized to be appropriated to carry out this section and
23 the amendments made by this section. Such section and

- 1 amendments shall be carried out using amounts otherwise
- 2 appropriated or made available for such purposes.

