

111<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 4842

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## AN ACT

To authorize appropriations for the Directorate of Science and Technology of the Department of Homeland Security for fiscal years 2011 and 2012, and for other purposes.

1        *Be it enacted by the Senate and House of Representa-*  
2        *tives of the United States of America in Congress assembled,*

**1 SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Homeland Security  
3 Science and Technology Authorization Act of 2010”.

**4 SEC. 2. TABLE OF CONTENTS.**

5 The table of contents for this Act is as follows:

- Sec. 1. Short title.
- Sec. 2. Table of contents.
- Sec. 3. Definitions.
- Sec. 4. References.

TITLE I—AUTHORIZATION OF APPROPRIATIONS

- Sec. 101. Authorization of appropriations.

TITLE II—MANAGEMENT AND ADMINISTRATION

- Sec. 201. Research prioritization and requirements; professional development; milestones and feedback.
- Sec. 202. Testing, evaluation, and standards.
- Sec. 203. External review.
- Sec. 204. Office of Public-Private Partnerships.

TITLE III—REPORTS

- Sec. 301. Directorate of Science and Technology strategic plan.
- Sec. 302. Report on technology requirements.
- Sec. 303. Report on venture capital organization.

TITLE IV—DIRECTORATE OF SCIENCE AND TECHNOLOGY  
PROGRAMS

- Sec. 401. Limitations on research.
- Sec. 402. University-based centers.
- Sec. 403. Review of university-based centers.
- Sec. 404. Cybersecurity research and development.
- Sec. 405. National Research Council study of cybersecurity incentives.
- Sec. 406. Research on cyber compromise of infrastructure.
- Sec. 407. Dual-use terrorist risks from synthetic genomics.
- Sec. 408. Underwater tunnel security demonstration project.
- Sec. 409. Threats research and development.
- Sec. 410. Maritime domain awareness and maritime security technology test, evaluation, and transition capabilities.
- Sec. 411. Rapid biological threat detection and identification.
- Sec. 412. Educating the public about radiological threats.
- Sec. 413. Rural resilience initiative.
- Sec. 414. Sense of Congress regarding the need for interoperability standards for Internet protocol video surveillance technology.
- Sec. 415. Homeland Security Science and Technology Fellows Program.
- Sec. 416. Biological threat agent assay equivalency.

- Sec. 417. Study of feasibility and benefit of expanding or establishing program to create a new cybersecurity capacity building track at certain institutions of higher education.
- Sec. 418. Sense of Congress regarding centers of excellence.
- Sec. 419. Assessment, research, testing, and evaluation of technologies to mitigate the threat of small vessel attack.
- Sec. 420. Research and development projects.
- Sec. 421. National Urban Security Technology Laboratory.
- Sec. 422. Homeland security science and technology advisory committee.

#### TITLE V—DOMESTIC NUCLEAR DETECTION OFFICE

- Sec. 501. Authorization of appropriations.
- Sec. 502. Domestic Nuclear Detection Office oversight.
- Sec. 503. Strategic plan and funding allocations for global nuclear detection architecture.
- Sec. 504. Radiation portal monitor alternatives.
- Sec. 505. Authorization of Securing the Cities Initiative.

#### TITLE VI—CLARIFYING AMENDMENTS

- Sec. 601. Federally funded research and development centers.
- Sec. 602. Elimination of Homeland Security Institute.
- Sec. 603. GAO study of the implementation of the statutory relationship between the Department and the Department of Energy national laboratories.
- Sec. 604. Technical changes.

#### TITLE VII—COMMISSION ON THE PROTECTION OF CRITICAL ELECTRIC AND ELECTRONIC INFRASTRUCTURES

- Sec. 701. Commission on the Protection of Critical Electric and Electronic Infrastructures.

#### TITLE VIII—BORDER SECURITY TECHNOLOGY INNOVATION

- Sec. 801. Ensuring research activities of the Department of Homeland Security include appropriate concepts of operation.
- Sec. 802. Report on basic research needs for border and maritime security.
- Sec. 803. Incorporating unmanned aerial vehicles into border and maritime airspace.
- Sec. 804. Establishing a research program in tunnel detection.
- Sec. 805. Research in document security and authentication technologies.
- Sec. 806. Study on global positioning system technologies.
- Sec. 807. Study of mobile biometric technologies at the border.
- Sec. 808. Authorization of appropriations.

### 1 **SEC. 3. DEFINITIONS.**

2 In this Act:

- 3 (1) **APPROPRIATE CONGRESSIONAL COM-**  
 4 **MITTEE.**—The term “appropriate congressional com-  
 5 mittee” means the Committee on Homeland Security

1 and the Committee on Science and Technology of  
2 the House of Representatives and any committee of  
3 the House of Representatives or the Senate having  
4 legislative jurisdiction under the rules of the House  
5 of Representatives or Senate, respectively, over the  
6 matter concerned.

7 (2) DEPARTMENT.—The term “Department”  
8 means the Department of Homeland Security.

9 (3) DIRECTORATE.—The term “Directorate”  
10 means the Directorate of Science and Technology of  
11 the Department.

12 (4) SECRETARY.—The term “Secretary” means  
13 the Secretary of Homeland Security.

14 (5) UNDER SECRETARY.—The term “Under  
15 Secretary” means the Under Secretary for Science  
16 and Technology of the Department.

17 **SEC. 4. REFERENCES.**

18 Except as otherwise specifically provided, whenever in  
19 this Act an amendment or repeal is expressed in terms  
20 of an amendment to, or repeal of, a provision, the ref-  
21 erence shall be considered to be made to a provision of  
22 the Homeland Security Act of 2002 (6 U.S.C. 101 et  
23 seq.).

1       **TITLE I—AUTHORIZATION OF**  
2                   **APPROPRIATIONS**

3   **SEC. 101. AUTHORIZATION OF APPROPRIATIONS.**

4       There are authorized to be appropriated to the Under  
5 Secretary \$1,121,664,000 for fiscal year 2011 and  
6 \$1,155,313,920 for fiscal year 2012 for the necessary ex-  
7 penses of the Directorate.

8       **TITLE II—MANAGEMENT AND**  
9                   **ADMINISTRATION**

10   **SEC. 201. RESEARCH PRIORITIZATION AND REQUIRE-**  
11                   **MENTS; PROFESSIONAL DEVELOPMENT;**  
12                   **MILESTONES AND FEEDBACK.**

13       (a) IN GENERAL.—Title III (6 U.S.C. 181 et seq.)  
14 is amended by adding at the end the following new sec-  
15 tions:

16   **“SEC. 318. RESEARCH PRIORITIZATION AND REQUIRE-**  
17                   **MENTS.**

18       “(a) REQUIREMENTS.—The Secretary shall—

19               “(1) by not later than 180 days after the date  
20 of enactment of this section, establish requirements  
21 for how basic and applied homeland security re-  
22 search shall be identified, prioritized, funded, tasked,  
23 and evaluated by the Directorate of Science and  
24 Technology, including the roles and responsibilities  
25 of the Under Secretary for Science and Technology,

1 the Under Secretary for Policy, the Under Secretary  
2 for Management, the Director of the Office of Risk  
3 Management and Analysis, the Director of the Do-  
4 mestic Nuclear Detection Office, and the heads of  
5 operational components of the Department; and

6 “(2) to the greatest extent possible, seek to  
7 publicize the requirements for the purpose of inform-  
8 ing the Federal, State, and local governments, first  
9 responders, and the private sector.

10 “(b) CONTENTS.—In the requirements, the Secretary  
11 shall—

12 “(1) identify the Directorate of Science and  
13 Technology’s customers within and outside of the  
14 Department;

15 “(2) describe the risk formula and risk assess-  
16 ment tools, including the risk assessment required  
17 under subsection (e)(1) that the Department con-  
18 siders to identify, prioritize, and fund homeland se-  
19 curity research projects;

20 “(3) describe the considerations to be used by  
21 the Directorate to task projects to research entities,  
22 including the national laboratories, federally funded  
23 research and development centers, and university-  
24 based centers;

1           “(4) describe the protocols to be used to assess  
2 off-the-shelf technology to determine if an identified  
3 homeland security capability gap can be addressed  
4 through the acquisition process instead of com-  
5 mencing research and development of technology to  
6 address that capability gap;

7           “(5) describe the processes to be used by the  
8 Directorate to strengthen first responder participa-  
9 tion in identifying and prioritizing homeland security  
10 technological gaps, including by—

11                 “(A) soliciting feedback from appropriate  
12 national associations and advisory groups rep-  
13 resenting the first responder community and  
14 first responders within the components of the  
15 Department; and

16                 “(B) establishing and promoting a publicly  
17 accessible portal to allow the first responder  
18 community to help the Directorate develop  
19 homeland security research and development  
20 goals;

21           “(6) describe a mechanism to publicize the De-  
22 partment’s funded and unfunded homeland security  
23 technology priorities; and

24           “(7) include such other requirements, policies,  
25 and practices as the Secretary considers necessary.

1       “(c) ACTIVITIES IN SUPPORT OF THE RESEARCH  
2 PRIORITIZATION AND REQUIREMENTS.—Not later than  
3 one year after the date of the issuance of the require-  
4 ments, the Secretary shall—

5           “(1) carry out the requirements of subsection  
6 (a);

7           “(2) establish, through the Under Secretary for  
8 Science and Technology and Under Secretary for  
9 Management, a mandatory workforce program for  
10 the Directorate’s customers in the Department to  
11 better identify and prioritize homeland security ca-  
12 pability gaps that may be addressed by a techno-  
13 logical solution based on the assessment required  
14 under section 319(a)(2);

15           “(3) establish a system to collect feedback from  
16 customers of the Directorate on the performance of  
17 the Directorate; and

18           “(4) any other activities that the Secretary con-  
19 siders to be necessary to implement the require-  
20 ments.

21       “(d) BIENNIAL UPDATES ON IMPLEMENTATION.—  
22 One hundred and eighty days after the date of enactment  
23 of this section, and on a biennially basis thereafter, the  
24 Inspector General of the Department shall submit a bian-  
25 nually update to the appropriate congressional committees



1 on the status of implementation of the research  
2 prioritization and requirements and activities in support  
3 of such requirements.

4 “(e) RISK ASSESSMENT.—The Secretary shall—

5 “(1) submit to the appropriate congressional  
6 committees by not later than one year after the date  
7 of enactment of this subsection and annually there-  
8 after—

9 “(A) a national-level risk assessment car-  
10 ried out by the Secretary, describing and  
11 prioritizing the greatest risks to the homeland,  
12 that includes vulnerability studies, asset values  
13 (including asset values for intangible assets),  
14 estimated rates of occurrence, countermeasures  
15 employed, loss expectancy, cost/benefit analyses,  
16 and other practices generally associated with  
17 producing a comprehensive risk assessment;

18 “(B) an analysis of the Directorate’s ap-  
19 proach to mitigating the homeland security  
20 risks identified under subparagraph (A)  
21 through basic and applied research, develop-  
22 ment, demonstration, testing, and evaluation  
23 activities, as appropriate;

24 “(C) an analysis, based on statistics and  
25 metrics, of the effectiveness of the Directorate

1 in reducing the homeland security risks identi-  
2 fied under subparagraph (A) through the de-  
3 ployment of homeland security technologies re-  
4 searched or developed by the Directorate, as ap-  
5 propriate;

6 “(D) a description of how the analysis re-  
7 quired under subparagraph (A) shall be used to  
8 inform, guide, and prioritize the Department’s  
9 homeland security research and development ac-  
10 tivities, including recommendations for how the  
11 Directorate should modify or amend its existing  
12 research and development activities, including  
13 for purposes of reducing the risks to the home-  
14 land identified under subparagraph (A); and

15 “(E) a description of input from other rel-  
16 evant Federal, State, or local agencies and rel-  
17 evant private sector entities in conducting the  
18 risk assessment required by subparagraph (A);  
19 and

20 “(2) conduct research and development on ways  
21 to most effectively communicate information regard-  
22 ing the risks identified under paragraph (1)(A) to  
23 the media as well as directly to the public, both on  
24 an ongoing basis and during a terrorist attack or  
25 other incident.

1 “(f) REPORT ON HSARPA ACTIVITIES.—

2 “(1) IN GENERAL.—Consistent with the Fed-  
3 eral Acquisition Regulation and any other relevant  
4 Federal requirements, not later than 60 days after  
5 the date of enactment of this subsection and annu-  
6 ally thereafter, the Secretary shall submit a report  
7 to the appropriate congressional committees con-  
8 taining the research, development, testing, evalua-  
9 tion, prototyping, and deployment activities under-  
10 taken by the Homeland Security Advanced Research  
11 Projects Agency during the previous fiscal year, in-  
12 cluding funds expended for such activities in the pre-  
13 vious fiscal year.

14 “(2) CONTENTS.—For each activity under-  
15 taken, the report shall—

16 “(A) describe, as appropriate, the cor-  
17 responding risk identified in subsection  
18 (e)(1)(A) that supports the decision to under-  
19 take that activity; and

20 “(B) describe any efforts made to transi-  
21 tion that activity into a Federal, State, or local  
22 acquisition program.

23 “(3) ADDITIONAL ACTIVITIES.—The Secretary  
24 shall include in each report a description of each  
25 proposal that was reviewed in the period covered by

1 the report by the Director of the Homeland Security  
2 Advanced Research Projects Agency under section  
3 313(d)(3), including a statement of whether the pro-  
4 posal received a grant, cooperative agreement, or  
5 contract from the Director.

6 **“SEC. 319. PROFESSIONAL DEVELOPMENT.**

7 “(a) REPORTING REQUIREMENT.—Sixty days before  
8 establishing the mandatory workforce program as required  
9 by section 318(c)(2), the Secretary shall report to the ap-  
10 propriate congressional committees on the following:

11 “(1) A description of how homeland security  
12 technological requirements are developed by the Di-  
13 rectorate of Science and Technology’s customers  
14 within the Department.

15 “(2) A description of the training that should  
16 be provided to the Directorate’s customers in the  
17 Department under the mandatory workforce pro-  
18 gram to allow them to identify, express, and  
19 prioritize homeland security capability gaps.

20 “(3) A plan for how the Directorate, in coordi-  
21 nation with the Domestic Nuclear Detection Office  
22 and other Department components, can enhance and  
23 improve technology requirements development and  
24 the technology acquisition process, to accelerate the  
25 delivery of effective, suitable technologies that meet

1 performance requirements and appropriately address  
2 an identified homeland security capability gap.

3 “(4) An assessment of whether Congress should  
4 authorize, in addition to the program required under  
5 section 318(c)(2), a training program for Depart-  
6 ment employees to be trained in requirements writ-  
7 ing and acquisition, that—

8 “(A) is prepared in consultation with the  
9 Department of Veterans Affairs Acquisition  
10 Academy and the Defense Acquisition Univer-  
11 sity; and

12 “(B) if the Secretary determines that such  
13 additional training should be authorized by  
14 Congress, includes specification about—

15 “(i) the type, skill set, and job series  
16 of Department employees who would ben-  
17 efit from such training, including an esti-  
18 mate of the number of such employees;

19 “(ii) a suggested curriculum for the  
20 training;

21 “(iii) the type and skill set of edu-  
22 cators who could most effectively teach  
23 those skills;

24 “(iv) the length and duration of the  
25 training;

1                   “(v) the advantages and disadvan-  
2                   tages of training employees in a live class-  
3                   room, or virtual classroom, or both;

4                   “(vi) cost estimates for the training;  
5                   and

6                   “(vii) the role of the Directorate in  
7                   supporting the training.

8           “(b) USE OF RESEARCH AND DEVELOPMENT CEN-  
9   TER.—The Secretary is encouraged to use a federally  
10 funded research and development center to assist the Sec-  
11 retary in carrying out the requirements of this section.

12 **“SEC. 320. CUSTOMER FEEDBACK.**

13           “In establishing a system to collect feedback under  
14 section 318(c)(3), the Secretary shall—

15                   “(1) create a formal process for collecting feed-  
16                   back from customers on the effectiveness of the  
17                   technology or services delivered by Directorate of  
18                   Science and Technology, including through random-  
19                   ized sampling, focus groups, and other methods as  
20                   appropriate;

21                   “(2) develop metrics for measuring customer  
22                   satisfaction and the usefulness of any technology or  
23                   service provided by the Directorate; and

1           “(3) establish standards and performance meas-  
2           ures to be met by the Directorate in order to provide  
3           high-quality customer service.

4   **“SEC. 321. RESEARCH PROGRESS.**

5           “(a) IN GENERAL.—The Secretary shall establish a  
6           system to monitor the progress of Directorate for Science  
7           and Technology research, development, testing, and eval-  
8           uation activities, including the establishment of initial and  
9           subsequent research milestones.

10          “(b) SYSTEM.—The system established under sub-  
11         section (a) shall—

12                 “(1) identify and monitor the progress toward  
13                 research milestones;

14                 “(2) allow the Directorate to provide regular re-  
15                 ports to its customers regarding the status and  
16                 progress of research efforts of the Directorate;

17                 “(3) allow the Secretary to evaluate how a tech-  
18                 nology or service produced as a result of the Direc-  
19                 torate’s programs has affected homeland security ca-  
20                 pability gaps; and

21                 “(4) allow the Secretary to report the number  
22                 of products and services developed by the Direc-  
23                 torate that have been transitioned into acquisition  
24                 programs.

1       “(c) GUIDANCE.—The Under Secretary for Science  
2 and Technology shall publicize and implement guidance on  
3 setting valid initial and subsequent research milestones for  
4 homeland security research funded by the Directorate.

5 **“SEC. 322. REPORT.**

6       “(a) IN GENERAL.—The Under Secretary shall sub-  
7 mit a report to the appropriate congressional commit-  
8 tees—

9               “(1) by not later than one year after the date  
10 of enactment of sections 320 and 321 identifying  
11 what actions have been taken to carry out the re-  
12 quirements of these sections; and

13               “(2) annually thereafter describing—

14                       “(A) research milestones for each large  
15 project with a Federal cost share greater than  
16 \$80,000,000 that have been successfully met  
17 and missed, including for each missed mile-  
18 stone, an explanation of why the milestone was  
19 missed; and

20                       “(B) customer feedback collected and the  
21 success of the Directorate in meeting the cus-  
22 tomer service performance measures and stand-  
23 ards, including an evaluation of the effective-  
24 ness of the technology or services delivered by  
25 the Directorate.”.



1 (b) CLERICAL AMENDMENTS.—The table of contents  
2 in section 1(b) is amended in the items relating to subtitle  
3 D of title II—

4 (1) in the item relating to the heading for the  
5 subtitle, by striking “Office of”;

6 (2) in the item relating to section 231, by strik-  
7 ing “office” and inserting “Office of Science and  
8 Technology”; and

9 (3) by adding at the end the following new  
10 items:

“Sec. 318. Research prioritization and requirements.

“Sec. 319. Professional development.

“Sec. 320. Customer feedback.

“Sec. 321. Research progress.

“Sec. 322. Report.

11 **SEC. 202. TESTING, EVALUATION, AND STANDARDS.**

12 Section 308 (6 U.S.C. 188) is amended by adding  
13 at the end of the following new subsection:

14 “(d) TEST, EVALUATION, AND STANDARDS DIVI-  
15 SION.—

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

19 “(2) DIRECTOR.—The Test, Evaluation, and  
20 Standards Division shall be headed by a Director of  
21 Test, Evaluation, and Standards, who shall be ap-  
22 pointed by the Secretary and report to the Under  
23 Secretary for Science and Technology.

1           “(3) RESPONSIBILITIES, AUTHORITIES, AND  
2           FUNCTIONS.—The Director of Test, Evaluation, and  
3           Standards—

4                   “(A) is the principal adviser to the Sec-  
5           retary, the Under Secretary of Management,  
6           and the Under Secretary for Science and Tech-  
7           nology on all test and evaluation or standards  
8           activities in the Department; and

9                   “(B) shall—

10                           “(i) prescribe test and evaluation poli-  
11           cies for the Department, which shall in-  
12           clude policies to ensure that operational  
13           testing is done at facilities that already  
14           have relevant and appropriate safety and  
15           material certifications to the extent such  
16           facilities are available;

17                           “(ii) oversee and ensure that adequate  
18           test and evaluation activities are planned  
19           and conducted by or on behalf of compo-  
20           nents of the Department in major acquisi-  
21           tion programs of the Department, as des-  
22           ignated by the Secretary, based on risk,  
23           acquisition level, novelty, complexity, and  
24           size of the acquisition program, or as oth-  
25           erwise established in statute;

1           “(iii) review major acquisition pro-  
2           gram test reports and test data to assess  
3           the adequacy of test and evaluation activi-  
4           ties conducted by or on behalf of compo-  
5           nents of the Department; and

6           “(iv) review available test and evalua-  
7           tion infrastructure to determine whether  
8           the Department has adequate resources to  
9           carry out its testing and evaluation respon-  
10          sibilities, as established under this title.

11          “(4) DEPUTY DIRECTOR OF OPERATIONAL TEST  
12          AND EVALUATION.—Within the Division there shall  
13          be a Deputy Director of Operational Test and Eval-  
14          uation, who—

15                 “(A) is the principal operational test and  
16                 evaluation official for the Department; and

17                 “(B) shall—

18                         “(i) monitor and review the oper-  
19                         ational testing and evaluation activities  
20                         conducted by or on behalf of components  
21                         of the Department in major acquisition  
22                         programs of the Department, as des-  
23                         ignated by the Secretary, based on risk,  
24                         acquisition level, novelty, complexity, and

1 size of the acquisition program, or as oth-  
2 erwise established in statute;

3 “(ii) provide the Department with as-  
4 sessments of the adequacy of testing and  
5 evaluation activities conducted in support  
6 of major acquisitions programs; and

7 “(iii) have prompt and full access to  
8 test and evaluation documents, data, and  
9 test results of the Department that the  
10 Deputy Director considers necessary to re-  
11 view in order to carry out the duties of the  
12 Deputy Director under this section.

13 “(5) STANDARDS EXECUTIVE.—Within this Di-  
14 vision, there shall be a Standards Executive as de-  
15 scribed in Office of Management and Budget Cir-  
16 cular A–119. The Standards Executive shall—

17 “(A) implement the Department’s stand-  
18 ards policy as described in section 102(g); and

19 “(B) support the Department’s use of  
20 technical standards that are developed or adopt-  
21 ed by voluntary consensus standards bodies in  
22 accordance with section 12(d) of the National  
23 Technology Transfer and Advancement Act of  
24 1995 (15 U.S.C. 272 note).

1           “(6) LIMITATION.—The Division is not required  
2           to carry out operational testing.

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

10 **SEC. 203. EXTERNAL REVIEW.**

11           (a) RESPONSIBILITIES AND AUTHORITIES OF THE  
12           UNDER SECRETARY.—Section 302 (6 U.S.C. 183) is  
13           amended by striking “and” after the semicolon at the end  
14           of paragraph (13), by striking the period at the end of  
15           paragraph (14) and inserting “; and”, and by adding at  
16           the end the following new paragraph:

17           “(15) developing and overseeing the administra-  
18           tion of guidelines for periodic external review of re-  
19           search and development programs or activities, in-  
20           cluding through—

21           “(A) consultation with experts, including  
22           scientists and practitioners, about the research  
23           and development activities conducted by the Di-  
24           rectorate of Science and Technology; and

1           “(B) ongoing independent, external re-  
2 view—

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

4                   “(ii) when divisions conduct multiple  
5 programs focused on significantly different  
6 subjects, at the program level.”.

7       (b) REPORT.—The Secretary shall report to Congress  
8 not later than 60 days after the completion of the first  
9 review under section 302(15)(B) of the Homeland Secu-  
10 rity Act of 2002, as amended by subsection (a) of this  
11 section on—

12           (1) the findings of the review; and

13           (2) any future efforts to ensure that the De-  
14 partment’s research programs or activities are sub-  
15 ject to external review, as appropriate.

16 **SEC. 204. OFFICE OF PUBLIC-PRIVATE PARTNERSHIPS.**

17       (a) ESTABLISHMENT.—Section 313 (6 U.S.C. 193)  
18 is amended to read as follows:

19 **“SEC. 313. OFFICE OF PUBLIC-PRIVATE PARTNERSHIPS.**

20       “(a) ESTABLISHMENT OF OFFICE.—There is estab-  
21 lished an Office of Public-Private Partnerships in the Di-  
22 rectorate of Science and Technology.

23       “(b) DIRECTOR.—The Office shall be headed by a Di-  
24 rector, who shall be appointed by the Secretary. The Di-

1 rector shall report to the Under Secretary for Science and  
2 Technology.

3 “(c) RESPONSIBILITIES.—The Director, in coordina-  
4 tion with the Private Sector Office of the Department,  
5 shall—

6 “(1) engage and initiate proactive outreach ef-  
7 forts and provide guidance on how to pursue pro-  
8 posals to develop or deploy homeland security tech-  
9 nologies (including regarding Federal funding, regu-  
10 lation, or acquisition), including to persons associ-  
11 ated with small businesses (as that term is defined  
12 in the Small Business Act (15 U.S.C. 631 et seq.));

13 “(2) coordinate with components of the Depart-  
14 ment to issue announcements seeking unique and in-  
15 novative homeland security technologies to address  
16 homeland security capability gaps;

17 “(3) promote interaction between homeland se-  
18 curity researchers and private sector companies in  
19 order to accelerate transition research or a prototype  
20 into a commercial product and streamline the han-  
21 dling of intellectual property; and

22 “(4) conduct technology research assessment  
23 and marketplace analysis for the purpose of identi-  
24 fying, leveraging, and integrating best-of-breed tech-  
25 nologies and capabilities from industry, academia,

1 and other Federal Government agencies, and dis-  
2 seminate research and findings to Federal, State,  
3 and local governments.

4 “(d) RAPID REVIEW DIVISION.—

5 “(1) ESTABLISHMENT.—There is established  
6 the Rapid Review Division within the Office of Pub-  
7 lic-Private Partnerships.

8 “(2) PURPOSE AND DUTIES.—

9 “(A) IN GENERAL.—The Division—

10 “(i) is responsible for maintaining a  
11 capability to perform business and tech-  
12 nical reviews to assist in screening unsolic-  
13 ited homeland security technology pro-  
14 posals submitted to the Secretary; and

15 “(ii) shall assess the feasibility, sci-  
16 entific and technical merits, and estimated  
17 cost of such proposals.

18 “(B) SPECIFIC DUTIES.—In carrying out  
19 those duties, the Division shall—

20 “(i) maintain awareness of the techno-  
21 logical requirements of the Directorate’s  
22 customers;

23 “(ii) establish and publicize accessible,  
24 streamlined procedures allowing a partici-



1           pant to have their technology assessed by  
2           the Division;

3           “(iii) make knowledgeable assessments  
4           of a participant’s technology after receiving  
5           a business plan, a technology proposal, and  
6           a list of corporate officers, directors, and  
7           employees with technical knowledge of the  
8           proposal, within 60 days after such a sub-  
9           mission;

10          “(iv) review proposals submitted by  
11          components of the Department to the Divi-  
12          sion, subject to subsection (e); and

13          “(v) in reviewing proposals submitted  
14          to the Secretary, give priority to any pro-  
15          posal submitted by a small business con-  
16          cern as defined under section 3 of the  
17          Small Business Act (15 U.S.C. 632).

18          “(3) COORDINATION.—The Director shall sub-  
19          mit for consideration promising homeland security  
20          technology research, development, testing, and eval-  
21          uation proposals, along with any business and tech-  
22          nical reviews, to the appropriate subcomponents of  
23          the Directorate and the appropriate operational com-  
24          ponents of the Department for consideration for  
25          support.

1       “(e) LIMITATION ON CONSIDERATION OR EVALUA-  
2 TION OF PROPOSALS.—The Office may not consider or  
3 evaluate homeland security technology proposals sub-  
4 mitted in response to a solicitation for offers for a pending  
5 procurement or for a specific agency requirement.

6       “(f) SATELLITE OFFICES.—The Under Secretary,  
7 acting through the Director, may establish up to 3 satellite  
8 offices across the country to enhance the Department’s  
9 outreach efforts. The Secretary shall notify the appro-  
10 priate congressional committees in writing within 30 days  
11 after establishing any satellite office.

12       “(g) PERSONNEL.—The Secretary shall establish  
13 rules to prevent the Director or any other employee of the  
14 Office from acting on matters where a conflict of interest  
15 may exist.”.

16       (b) CLERICAL AMENDMENT.—The table of contents  
17 in section 1(b) is amended by striking the item relating  
18 to such section and inserting the following:

“Sec. 313. Office of Public-Private Partnerships.”.

19       (c) AUTHORIZATION OF APPROPRIATIONS.—Of the  
20 amount authorized by section 101, there is authorized to  
21 be appropriated \$30,000,000 for the Office of Public-Pri-  
22 vate Partnerships for each of fiscal years 2011 and 2012.

# TITLE III—REPORTS

## SEC. 301. DIRECTORATE OF SCIENCE AND TECHNOLOGY STRATEGIC PLAN.

(a) IN GENERAL.—Title III (6 U.S.C. 181 et seq.), as amended by section 201, is further amended by adding at the end the following new section:

### “SEC. 323. STRATEGIC PLAN.

“(a) REQUIREMENT FOR STRATEGIC PLAN.—Not later than 1 year after the date of enactment of this section and every other year thereafter, the Under Secretary for Science and Technology shall prepare a strategic plan for the activities of the Directorate.

“(b) CONTENTS.—The strategic plan required by subsection (a) shall be prepared in accordance with applicable Federal requirements, and shall include the following matters:

“(1) The long-term strategic goals of the Directorate.

“(2) Identification of the research programs of the Directorate that support achievement of those strategic goals.

“(3) The connection of the activities and programs of the Directorate to requirements or homeland security capability gaps identified by customers

1 within the Department and outside of the Depart-  
2 ment, including the first responder community.

3 “(4) The role of the Department’s risk analysis  
4 in the activities and programs of the Directorate.

5 “(5) A technology transition strategy for the  
6 programs of the Directorate.

7 “(6) A description of the policies of the Direc-  
8 torate on the management, organization, and per-  
9 sonnel of the Directorate.

10 “(c) SUBMISSION OF PLAN TO CONGRESS.—The Sec-  
11 retary shall submit to Congress any update to the stra-  
12 tegic plan most recently prepared under subsection (a) at  
13 the same time that the President submits to Congress the  
14 budget for each even-numbered fiscal year.”.

15 (b) CLERICAL AMENDMENT.—The table of contents  
16 in section 1(b), as amended by section 201, is further  
17 amended by adding at the end of the items relating to  
18 title III the following new item:

“Sec. 323. Strategic plan.”.

19 **SEC. 302. REPORT ON TECHNOLOGY REQUIREMENTS.**

20 Section 302 (6 U.S.C. 182) is amended by inserting  
21 “(a) IN GENERAL.—” before the first sentence, and by  
22 adding at the end the following new subsection:

23 “(b) REPORT ON TECHNOLOGY REQUIREMENTS.—

24 “(1) IN GENERAL.—Within 90 days after the  
25 date of enactment, the Under Secretary shall, for

1 each current project conducted by the Directorate  
2 and having a Federal cost share greater than  
3 \$80,000,000, and on an ongoing basis thereafter for  
4 any new project conducted by the Directorate and  
5 having a Federal cost share greater than  
6 \$80,000,000, provide to the appropriate congress-  
7 sional committees a description of—

8 “(A) the Department components and cus-  
9 tomers consulted during the development of the  
10 operational and technical requirements associ-  
11 ated with the project; and

12 “(B) the extent to which the requirements  
13 incorporate the input of those components or  
14 customers.

15 “(2) LARGE PROJECTS.—Within 90 days after  
16 the date of enactment, the Secretary shall, for each  
17 current project conducted by a component of the De-  
18 partment besides the Directorate, and having a life-  
19 cycle cost greater than \$1,000,000,000, and on an  
20 ongoing basis thereafter for any new project con-  
21 ducted by a component of the Department besides  
22 the Directorate, and having a life-cycle cost greater  
23 than \$1,000,000,000, provide to the appropriate  
24 congressional committees detailed operational and

1 technical requirements that are associated with the  
2 project.”.

3 **SEC. 303. REPORT ON VENTURE CAPITAL ORGANIZATION.**

4 (a) IN GENERAL.—Not later than 1 year after the  
5 date of enactment of this Act, the Secretary shall submit  
6 a report to the appropriate congressional committees—

7 (1) assessing the current role of the venture  
8 capital community in funding advanced homeland se-  
9 curity technologies, including technologies proposed  
10 by small business concerns as defined under section  
11 3 of the Small Business Act (15 U.S.C. 632); and

12 (2) providing recommendations about creating a  
13 nonprofit organization for the purposes of delivering  
14 advanced homeland security technologies to the  
15 homeland security community to further its mis-  
16 sions.

17 (b) CONTENTS.—The report shall include the fol-  
18 lowing:

19 (1) An assessment of the current awareness  
20 and insight that the Department has regarding ad-  
21 vanced private sector homeland security innovation,  
22 and the Department’s ability to quickly transition  
23 innovative products into acquisitions.

24 (2) A description of how the Department cur-  
25 rently finds and works with emerging companies,

1 particularly firms that have never done business  
2 with the Federal Government, small business con-  
3 cerns, small business concerns that are owned and  
4 operated by women, small business concerns that are  
5 owned and operated by veterans, and minority-  
6 owned and operated small business concerns.

7 (3) An assessment and analysis of the current  
8 role that venture capitalists play in the development  
9 of homeland security technologies, including an as-  
10 sessment of how the venture capital community  
11 could be leveraged to accelerate technology, foster  
12 development, and introduce new technologies needed  
13 by the homeland security community.

14 (4) An assessment of whether the Department  
15 could help nascent commercial technologies mature  
16 into commercial-off-the-shelf products the homeland  
17 security community could acquire.

18 (5) An analysis of whether the Central Intel-  
19 ligence Agency's In-Q-Tel organization or the De-  
20 partment of Defense's OnPoint Technologies organi-  
21 zation could serve as a model for the development of  
22 homeland security technology at the Department.

23 (6) Recommendations of the Secretary regard-  
24 ing how Congress could authorize the establishment  
25 of a private, independent, not-for-profit organization

1 to bridge the gap between the technology needs of  
2 the homeland security community and new advances  
3 in commercial technology, including specifics on po-  
4 tential funding levels, activities for the organization,  
5 including the provision of technical assistance, and  
6 whether to establish set-asides for small businesses  
7 that are minority-owned and operated or located in  
8 socially and economically disadvantaged areas.

9 (c) USE OF RESEARCH AND DEVELOPMENT CEN-  
10 TER.—The Secretary is encouraged to use a federally  
11 funded research and development center to produce the  
12 report under this section.

13 (d) AUTHORIZATION OF APPROPRIATIONS.—Of the  
14 amount authorized by section 101, there is authorized to  
15 be appropriated \$500,000 for the report under this sec-  
16 tion.

17 **TITLE IV—DIRECTORATE OF**  
18 **SCIENCE AND TECHNOLOGY**  
19 **PROGRAMS**

20 **SEC. 401. LIMITATIONS ON RESEARCH.**

21 Section 302(a)(4), as designated by section 302, is  
22 further amended by inserting after “extramural pro-  
23 grams,” the following: “that, to the greatest extent pos-  
24 sible, addresses a prioritized risk to the homeland as iden-  
25 tified by a risk analysis under section 226(e) of this Act”.



1 **SEC. 402. UNIVERSITY-BASED CENTERS.**

2 (a) AUTHORIZATION OF APPROPRIATIONS.—Of the  
3 amount authorized by section 101, there is authorized to  
4 be appropriated \$40,000,000 for fiscal year 2011 and  
5 \$41,200,000 for fiscal year 2012 to the Secretary to carry  
6 out the university-based centers program of the Depart-  
7 ment.

8 (b) CRITERIA FOR DESIGNATION.—Section  
9 308(b)(2)(B)(iii) (6 U.S.C. 188(b)(2)(B)(iii)) is amended  
10 by inserting before the period at the end the following:  
11 “, including medical readiness training and research, and  
12 community resiliency for public health and healthcare crit-  
13 ical infrastructure”.

14 (c) EXPLOSIVE COUNTERMEASURES OR DETEC-  
15 TION.—Section 308(b)(2)(B)(iv) (6 U.S.C.  
16 188(b)(2)(B)(iv)) is amended by striking “and nuclear”  
17 and inserting “nuclear, and explosive”.

18 **SEC. 403. REVIEW OF UNIVERSITY-BASED CENTERS.**

19 (a) GAO STUDY OF UNIVERSITY-BASED CENTERS.—  
20 Not later than 120 days after the date of enactment of  
21 this Act, the Comptroller General of the United States  
22 shall initiate a study to assess the university-based centers  
23 for homeland security program authorized by section  
24 308(b)(2) of the Homeland Security Act of 2002 (6  
25 U.S.C. 188(b)(2)), and provide recommendations to the

1 appropriate congressional committees for appropriate im-  
2 provements.

3 (b) SUBJECT MATTERS.—The study under sub-  
4 section (a) shall include the following:

5 (1) A review of the Department’s efforts to  
6 identify key areas of study needed to support the  
7 homeland security mission, and criteria that the De-  
8 partment utilized to determine those key areas for  
9 which the Department should maintain, establish, or  
10 eliminate university-based centers.

11 (2) A review of the method by which university-  
12 based centers, federally funded research and develop-  
13 ment centers, and Department of Energy national  
14 laboratories receive tasking from the Department,  
15 including a review of how university-based research  
16 is identified, prioritized, and funded.

17 (3) A review of selection criteria for designating  
18 university-based centers and a weighting of such cri-  
19 teria.

20 (4) An examination of best practices from other  
21 agencies efforts to organize and use university-based  
22 research to support their missions.

23 (5) A review of the Department’s criteria and  
24 metrics to measure demonstrable progress achieved  
25 by university-based centers in fulfilling Department

1 taskings, and mechanisms for delivering and dis-  
2 seminating the research results of designated univer-  
3 sity-based centers within the Department and to  
4 other Federal, State, and local agencies.

5 (6) An examination of the means by which aca-  
6 demic institutions that are not designated or associ-  
7 ated with the designated university-based centers  
8 can optimally contribute to the research mission of  
9 the Directorate.

10 (7) An assessment of the interrelationship be-  
11 tween the different university-based centers.

12 (8) A review of any other essential elements of  
13 the programs determined in the conduct of the  
14 study.

15 (c) MORATORIUM ON NEW UNIVERSITY-BASED CEN-  
16 TERS.—The Secretary may not designate any new univer-  
17 sity-based centers to research new areas in homeland secu-  
18 rity prior to the completion of the Comptroller General’s  
19 review.

20 **SEC. 404. CYBERSECURITY RESEARCH AND DEVELOPMENT.**

21 (a) IN GENERAL.—The Under Secretary shall sup-  
22 port research, development, testing, evaluation, and tran-  
23 sition of cybersecurity technology, including fundamental,  
24 long-term research to improve the ability of the United  
25 States to prevent, protect against, detect, respond to, and

1 recover from acts of terrorism and cyber attacks, with an  
2 emphasis on research and development relevant to large-  
3 scale, high-impact attacks.

4 (b) ACTIVITIES.—The research and development sup-  
5 ported under subsection (a) shall include work to—

6 (1) advance the development and accelerate the  
7 deployment of more secure versions of fundamental  
8 Internet protocols and architectures, including for  
9 the domain name system and routing protocols;

10 (2) improve and create technologies for detect-  
11 ing attacks or intrusions, including real-time moni-  
12 toring and real-time analytic technologies;

13 (3) improve and create mitigation and recovery  
14 methodologies, including techniques and policies for  
15 real-time containment of attacks, and development  
16 of resilient networks and systems that degrade  
17 gracefully;

18 (4) develop and support infrastructure and tools  
19 to support cybersecurity research and development  
20 efforts, including modeling, testbeds, and data sets  
21 for assessment of new cybersecurity technologies;

22 (5) assist the development and support of tech-  
23 nologies to reduce vulnerabilities in process control  
24 systems;

1           (6) develop and support cyber forensics and at-  
2           tack attribution; and

3           (7) test, evaluate, and facilitate the transfer of  
4           technologies associated with the engineering of less  
5           vulnerable software and securing the information  
6           technology software development lifecycle.

7           (c) COORDINATION.—In carrying out this section, the  
8           Under Secretary shall coordinate activities with—

9           (1) the Under Secretary for National Protection  
10          and Programs; and

11          (2) the heads of other relevant Federal depart-  
12          ments and agencies, including the National Science  
13          Foundation, the Defense Advanced Research  
14          Projects Agency, the Information Assurance Direc-  
15          torate of the National Security Agency, the National  
16          Institute of Standards and Technology, the Depart-  
17          ment of Commerce, and other appropriate working  
18          groups established by the President to identify  
19          unmet needs and cooperatively support activities, as  
20          appropriate.

21          (d) AUTHORIZATION OF CYBERSECURITY PREPARED-  
22          NESS CONSORTIUM AND TRAINING CENTER.—

23          (1) CYBERSECURITY PREPAREDNESS CONSOR-  
24          TIUM.—Subtitle C of title II of the Homeland Secu-

1 rity Act of 2002 (6 U.S.C. 121 et seq.) is amended  
2 by adding at the end the following new section:

3 **“SEC. 226. CYBERSECURITY PREPAREDNESS CONSORTIUM.**

4 “(a) IN GENERAL.—To assist the Secretary in car-  
5 rying out the requirements of section 404(a) of the Home-  
6 land Security Science and Technology Authorization Act  
7 of 2010, the Secretary may establish a consortium to be  
8 known as the ‘Cybersecurity Preparedness Consortium’.

9 “(b) FUNCTIONS.—The Consortium shall—

10 “(1) provide training to State and local first re-  
11 sponders and officials specifically for preparing and  
12 responding to cybersecurity attacks;

13 “(2) develop and update a curriculum and  
14 training model for State and local first responders  
15 and officials;

16 “(3) provide technical assistance services to  
17 build and sustain capabilities in support of cyberse-  
18 curity preparedness and response;

19 “(4) conduct cybersecurity training and simula-  
20 tion exercises to defend from and respond to cyber  
21 attacks; and

22 “(5) coordinate all cybersecurity preparedness  
23 training activities conducted by the Department.

24 “(c) MEMBERS.—The Consortium shall consist of  
25 academic, nonprofit, and government partners that—

1           “(1) have demonstrated expertise in developing  
2           and delivering cybersecurity training in support of  
3           homeland security;

4           “(2) have demonstrated ability to utilize exist-  
5           ing courses and expertise developed by the Depart-  
6           ment;

7           “(3) have demonstrated ability to coordinate  
8           with the National Domestic Preparedness Consor-  
9           tium and other training programs within the De-  
10          partment; and

11          “(4) include at least 3 academic institutions  
12          that are any combination of historically Black col-  
13          leges and universities, Hispanic-serving institutions,  
14          or tribal colleges and universities, that fulfill the cri-  
15          teria of paragraphs (1), (2) and (3) of this sub-  
16          section.

17          “(d) DEFINITIONS.—In this section:

18                 “(1) HISTORICALLY BLACK COLLEGE OR UNI-  
19                 VERSITY.—The term ‘historically Black college or  
20                 university’ has the meaning given the term ‘part B  
21                 institution’ in section 322(2) of the Higher Edu-  
22                 cation Act of 1965 (20 U.S.C. 1061(2)).

23                 “(2) HISPANIC-SERVING INSTITUTION.—The  
24                 term ‘Hispanic-serving institution’ has the meaning

1 given that term in section 502 of the Higher Edu-  
2 cation Act of 1965 (20 U.S.C. 1101(a)).

3 “(3) TRIBAL COLLEGE OR UNIVERSITY.—The  
4 term ‘tribal college or university’ has the meaning  
5 given that term in section 316(b) of the Higher  
6 Education Act of 1965 (20 U.S.C. 1059e(b)).”.

7 (2) CLERICAL AMENDMENT.—Section 1(b) of  
8 such Act is further amended by adding at the end  
9 of the items relating to such subtitle the following  
10 new item:

“Sec. 226. Cybersecurity Preparedness Consortium.”.

11 (3) CYBERSECURITY TRAINING CENTER.—Sub-  
12 title C of title II of the Homeland Security Act of  
13 2002 (6 U.S.C. 121 et seq.) is further amended by  
14 adding at the end the following new section:

15 **“SEC. 227. CYBERSECURITY TRAINING CENTER.**

16 “The Secretary may establish where appropriate a  
17 Cybersecurity Training Center to provide training courses  
18 and other resources for State and local first responders  
19 and officials to improve preparedness and response capa-  
20 bilities.”.

21 (4) CLERICAL AMENDMENT.—Section 1(b) of  
22 such Act is further amended by adding at the end  
23 of the items relating to such subtitle the following  
24 new item:

“Sec. 227. Cybersecurity Training Center.”.



1 (e) AUTHORIZATION OF APPROPRIATIONS.—Of the  
2 amount authorized by section 101, there is authorized to  
3 be appropriated \$75,000,000 to the Department for each  
4 of fiscal years 2011 and 2012 for the cybersecurity re-  
5 search and development activities of the Directorate to  
6 prevent, detect, and respond to acts of terrorism and other  
7 large-scale disruptions to information infrastructure.

8 **SEC. 405. NATIONAL RESEARCH COUNCIL STUDY OF CY-**  
9 **BERSECURITY INCENTIVES.**

10 (a) STUDY.—Not later than 90 days after the date  
11 of enactment of this Act, the Under Secretary and the  
12 Under Secretary for National Protection and Programs of  
13 the Department shall seek to enter into an agreement with  
14 the National Research Council of the National Academy  
15 of Sciences to conduct a study to assess methods that  
16 might be used to promote market mechanisms that further  
17 cybersecurity and make recommendations for appropriate  
18 improvements thereto.

19 (b) SUBJECT MATTERS.—The study required under  
20 subsection (a) shall include the following:

21 (1) Liability that subjects software and system  
22 vendors and system operators to potential damages  
23 for system breaches.

24 (2) Mandated reporting of security breaches  
25 that could threaten critical functions, including pro-

1 vision of electricity and resiliency of the financial  
2 sector.

3 (3) Regulation that under threat of civil pen-  
4 alty, imposes best practices on system operators of  
5 critical infrastructure.

6 (4) Certification from standards bodies about  
7 conformance to relevant cybersecurity standards that  
8 can be used as a marketplace differentiation.

9 (5) Accounting practices that require companies  
10 to report their cybersecurity practices and postures  
11 and the results of independently conducted red team  
12 simulated attacks or exercises.

13 (6) Cybersecurity risk insurance, including  
14 analysis of the current marketplace and rec-  
15 ommendations to promote cybersecurity insurance.

16 (c) SUBMISSION TO CONGRESS.—Not later than two  
17 years after the date of enactment of this Act, the Sec-  
18 retary shall submit to the appropriate congressional com-  
19 mittees the results of the study required under subsection  
20 (a), together with any recommendations of the Secretary  
21 related thereto.

22 (d) AUTHORIZATION OF APPROPRIATIONS.—Of the  
23 amount authorized by section 101, there is authorized to  
24 be appropriated \$500,000 to the Department for fiscal  
25 year 2011 to carry out this section.

1 **SEC. 406. RESEARCH ON CYBER COMPROMISE OF INFRA-**  
2 **STRUCTURE.**

3 (a) IN GENERAL.—Pursuant to section 201 of the  
4 Homeland Security Act of 2002 (6 U.S.C. 121) and in  
5 furtherance of domestic preparedness for and collective re-  
6 sponse to a cyber attack by a terrorist or other person,  
7 the Secretary, working with the heads of other national  
8 security and intelligence agencies, shall periodically con-  
9 duct research to determine if the security of federally  
10 owned programmable electronic devices and communica-  
11 tion networks, including hardware, software, and data, es-  
12 sential to the reliable operation of critical electric infra-  
13 structure has been compromised.

14 (b) SCOPE OF RESEARCH.—The scope of the research  
15 required under subsection (a) shall include the following:

16 (1) The extent of any compromise.

17 (2) An identification of any attackers, including  
18 any affiliations with terrorists, terrorist organiza-  
19 tions, state entities, and non-state entities.

20 (3) The method of penetration.

21 (4) Ramifications of any such compromise on  
22 future operations of critical electric infrastructure.

23 (5) Secondary ramifications of any such com-  
24 promise on other critical infrastructure sectors and  
25 the functioning of civil society.

1           (6) Ramifications of any such compromise on  
2 national security, including war fighting capability.

3           (7) Recommended mitigation activities.

4           (c) REPORT.—Not later than 30 days after the date  
5 a determination has been made under subsection (a), the  
6 Secretary shall submit to the appropriate congressional  
7 committees a report on the findings of such determination.  
8 The report may contain a classified annex if the Secretary  
9 determines it to be appropriate.

10 **SEC. 407. DUAL-USE TERRORIST RISKS FROM SYNTHETIC**  
11 **GENOMICS.**

12           (a) SENSE OF CONGRESS.—It is the sense of Con-  
13 gress that the field of synthetic genomics has the potential  
14 to facilitate enormous gains in fundamental discovery and  
15 biotechnological applications, but it also has inherent dual-  
16 use homeland security risks that must be managed.

17           (b) REQUIREMENT.—The Under Secretary shall ex-  
18 amine and report to the appropriate congressional com-  
19 mittees by not later than one year after the date of enact-  
20 ment of this Act on the homeland security implications  
21 of the dual-use nature of synthetic genomics and, if the  
22 Under Secretary determines that such research is appro-  
23 priate, may conduct research in that area, including—

24           (1) determining the current capability of syn-  
25 thetic nucleic acid providers to effectively differen-

1       tiate a legitimate customer from a potential terrorist  
2       or other malicious actor;

3           (2) determining the current capability of syn-  
4       thetic nucleic acid providers to effectively screen or-  
5       ders for sequences of homeland security concern;  
6       and

7           (3) making recommendations regarding screen-  
8       ing software, protocols, and other remaining capa-  
9       bility gaps uncovered by the study.

10 **SEC. 408. UNDERWATER TUNNEL SECURITY DEMONSTRATION PROJECT.**  
11

12       (a) **IN GENERAL.**—The Under Secretary, in consulta-  
13       tion with the Assistant Secretary of the Transportation  
14       Security Administration, shall conduct a demonstration  
15       project to test and assess the feasibility and effectiveness  
16       of certain technologies to enhance the security of under-  
17       water public transportation tunnels against terrorist at-  
18       tacks involving the use of improvised explosive devices.

19       (b) **INFLATABLE PLUGS.**—At least one of the tech-  
20       nologies tested under subsection (a) shall be inflatable  
21       plugs that may be rapidly deployed to prevent flooding of  
22       an underwater public transportation tunnel.

23       (c) **REPORT.**—Not later than 180 days after the com-  
24       pletion of the demonstration project under subsection (a),  
25       the Under Secretary shall submit to the appropriate con-

1 gressional committees a report on the results of the dem-  
2 onstration project.

3 **SEC. 409. THREATS RESEARCH AND DEVELOPMENT.**

4 (a) IN GENERAL.—The Under Secretary, in carrying  
5 out responsibilities under section 302 of the Homeland Se-  
6 curity Act of 2002 (6 U.S.C. 182), may support research,  
7 development, testing, evaluation, and transition of tech-  
8 nology that increases the Nation’s preparedness against  
9 chemical and biological threats and strengthens the Na-  
10 tion’s preparedness and collective response against those  
11 threats through improved threat awareness and advanced  
12 surveillance, detection, and protective countermeasures,  
13 and to enhance the development of border security tech-  
14 nology.

15 (b) BIOLOGICAL SECURITY.—To carry out subsection  
16 (a), the Under Secretary may conduct research to develop  
17 understanding, technologies, and systems needed to pro-  
18 tect against biological attacks on the Nation’s population  
19 or infrastructure, including—

20 (1) providing advanced planning tools, concepts  
21 of operations (including alarm resolution protocols),  
22 and training exercises for responding to and recov-  
23 ering from biological attacks;

24 (2) developing biological assays and improved  
25 detection technology that will operate with faster de-

1       tection times, lower costs, and the potential for in-  
2       creased geographical coverage to the Nation when  
3       compared to existing homeland security technologies;

4           (3) characterizing threats posed by biological  
5       weapons, anticipating future threats, conducting  
6       comprehensive threat and risk assessments to guide  
7       prioritization of the Nation's biodefense investments,  
8       and developing population threat assessments that  
9       inform the issuance of material threat determina-  
10      tions;

11          (4) conducting bioforensics research in support  
12      of criminal investigations to aid attribution, appre-  
13      hension, and prosecution of a terrorist or other per-  
14      petrator of a biological attack, and providing tools  
15      and facilities that Federal law enforcement inves-  
16      tigators need to analyze biological threat evidence re-  
17      covered, including operation of the National Bio-  
18      forensic Analysis Center; and

19          (5) conducting appropriate research and studies  
20      that will increase our understanding of and uncer-  
21      tainties associated with risk and threats posed by bi-  
22      ological agents through the Biological Threat Char-  
23      acterization Center and other means as determined  
24      by the Secretary.

1           (c) AGRICULTURAL SECURITY.—The Under Sec-  
2 retary may conduct research and development to enhance  
3 the protection of the Nation’s agriculture and food system  
4 against terrorist attacks, and other emergency events  
5 through enhancement of current agricultural counter-  
6 measures, development of new agricultural counter-  
7 measures, and provision of safe, secure, state-of-the-art  
8 biocontainment laboratories for researching foreign animal  
9 and zoonotic diseases, including—

10           (1) developing technologies to defend the Na-  
11 tion against the natural and intentional introduction  
12 of selected foreign animal diseases, developing next-  
13 generation vaccines and diagnostics in coordination  
14 with the Department of Agriculture, and modeling  
15 the spread of foreign animal diseases and their eco-  
16 nomic impact to evaluate strategies for controlling  
17 outbreaks; and

18           (2) leading the Department effort to enhance  
19 interagency coordination of research and develop-  
20 ment of agricultural disease countermeasures.

21           (d) CHEMICAL SECURITY.—The Under Secretary  
22 may develop technology to reduce the Nation’s vulner-  
23 ability to chemical warfare agents and commonly used  
24 toxic industrial chemicals, including—



1           (1) developing a robust and enduring analytical  
2           capability in support of chemical countermeasures  
3           development, including developing and validating fo-  
4           rensic methodologies and analytical tools, conducting  
5           risk and vulnerability assessments based on chemical  
6           threat properties, and maintaining infrastructure in-  
7           cluding the Chemical Security Analysis Center;

8           (2) developing technology to detect a chemical  
9           threat release; and

10          (3) developing technologies and guidance docu-  
11          ments to foster a coordinated approach to returning  
12          a chemically contaminated area to a normal condi-  
13          tion, and to foster analysis of contaminated areas  
14          both before and after the restoration process.

15          (e) RISK ASSESSMENTS.—

16          (1) IN GENERAL.—The Under Secretary shall  
17          produce risk assessments for biological and chemical  
18          threats, and shall coordinate with the Director of the  
19          Domestic Nuclear Detection Office of the Depart-  
20          ment, the Assistant Secretary of the Office of  
21          Health Affairs of the Department, and the Assistant  
22          Secretary of Infrastructure Protection of the De-  
23          partment on an integrated risk assessment, includ-  
24          ing regarding chemical, biological, radiological, nu-  
25          clear, and explosive threats.

1           (2) USAGE.—The assessments required under  
2           paragraph (1) shall be used to inform and guide the  
3           threat assessments and determinations by the Sec-  
4           retary regarding agents and toxins pursuant to sec-  
5           tion 302(9) of the Homeland Security Act of 2002  
6           (6 U.S.C. 182(9)), and to guide prioritization of  
7           other homeland defense activities, as appropriate.

8           (3) TASK FORCE.—The Under Secretary for  
9           Science and Technology shall convene an interagency  
10          task force of relevant subject matter experts to as-  
11          sess the proposed methodology to be used for each  
12          assessment required under paragraph (1), and to  
13          provide recommendations to the Under Secretary as  
14          to the adequacy of such methodology.

15          (f) BORDER SECURITY.—The Under Secretary may  
16          develop technology, in coordination with the Commissioner  
17          of Customs and Border Protection, to gain effective con-  
18          trol of the international land borders of the United States  
19          within 5 years after the date of enactment of this Act.  
20          In carrying out such development activities, the Under  
21          Secretary shall ensure coordination and integration be-  
22          tween new technologies developed and those already uti-  
23          lized by U.S. Customs and Border Protection.

1 **SEC. 410. MARITIME DOMAIN AWARENESS AND MARITIME**  
2 **SECURITY TECHNOLOGY TEST, EVALUATION,**  
3 **AND TRANSITION CAPABILITIES.**

4 (a) GLOBAL MARITIME DOMAIN AWARENESS AND  
5 MARITIME SECURITY TECHNOLOGY TEST, EVALUATION,  
6 AND TRANSITION CAPABILITIES.—

7 (1) ESTABLISHMENT.—The Secretary shall es-  
8 tablish capabilities for conducting global maritime  
9 domain awareness and maritime security technology  
10 test, evaluation, and transition, as provided in this  
11 subsection.

12 (2) PURPOSE.—The purpose of such capabili-  
13 ties shall be to—

14 (A) direct technology test, evaluation, and  
15 transition activities in furtherance of border  
16 and maritime security; and

17 (B) evaluate such technology in diverse en-  
18 vironments including coastal, seaport, and off-  
19 shore locations.

20 (b) COORDINATION.—The Secretary, acting through  
21 the Under Secretary, shall ensure that—

22 (1) technology test, evaluation, and transition  
23 efforts funded by the Department in furtherance of  
24 border and maritime security avoid duplication of ef-  
25 forts, reduce unnecessary redundancies, streamline  
26 processes, increase efficiencies, and otherwise com-



1 (c) COLLABORATION.—In developing methods under  
2 subsection (b), the Secretary may collaborate with other  
3 Federal agencies, as appropriate.

4 **SEC. 412. EDUCATING THE PUBLIC ABOUT RADIOLOGICAL**  
5 **THREATS.**

6 (a) PUBLIC AWARENESS CAMPAIGN.—The Secretary  
7 shall develop a public awareness campaign to enhance pre-  
8 paredness and collective response to a radiological attack,  
9 including the following:

10 (1) A clear explanation of the dangers associ-  
11 ated with radioactive materials.

12 (2) Possible effects of different levels of radi-  
13 ation exposure, including a clear description of the  
14 how radiation exposure occurs and the amount of ex-  
15 posure necessary to be of concern.

16 (3) Actions that members of the public should  
17 take regarding evacuation, personal decontamina-  
18 tion, and medical treatment.

19 (b) RECOVERY.—The Secretary shall develop a plan  
20 for postevent recovery from a radiological attack. Such  
21 plan shall include the following:

22 (1) A definition of the demarcation between re-  
23 sponse and recovery from a radiological attack.

24 (2) Consideration of multiple attack scenarios,  
25 including a worst-case scenario.

1           (3) Consideration of multiple recovery strate-  
2           gies, including decontamination, demolition and re-  
3           moval, and relocation.

4           (4) Consideration of economic, health, and psy-  
5           chological effects.

6 **SEC. 413. RURAL RESILIENCE INITIATIVE.**

7           (a) IN GENERAL.—The Under Secretary shall con-  
8           duct research intended to assist State, local, and tribal  
9           leaders and the private sector in developing the tools and  
10          methods to enhance preparation for, and response and re-  
11          silience to, terrorist events and other incidents.

12          (b) INCLUDED ACTIVITIES.—Activities under this  
13          section may include—

14               (1) research and implementation through out-  
15               reach activities with rural communities;

16               (2) an examination of how communities employ  
17               resilience capabilities and response assets;

18               (3) a community resilience baseline template for  
19               determining the resilience capacity of a rural com-  
20               munity;

21               (4) a plan to address community needs for re-  
22               silience;

23               (5) an education program for community lead-  
24               ers and first responders about their resilience capac-

1       ity and mechanisms for mitigation, including via dis-  
2       tance learning; and

3               (6) a mechanism by which this research can  
4       serve as a model for adoption by communities across  
5       the Nation.

6       **SEC. 414. SENSE OF CONGRESS REGARDING THE NEED FOR**  
7                       **INTEROPERABILITY STANDARDS FOR INTER-**  
8                       **NET PROTOCOL VIDEO SURVEILLANCE TECH-**  
9                       **NOLOGY.**

10       It is the sense of Congress that—

11               (1) video surveillance systems that operate over  
12       the Internet are an emerging homeland security  
13       technology that has the potential of significantly im-  
14       proving homeland security forensic and analytical  
15       capability;

16               (2) to realize the full security benefits of such  
17       emerging homeland security technology, there should  
18       be interoperability standards for such technology;

19               (3) the Directorate, working with the National  
20       Institute of Standards and Technology and any  
21       other appropriate Federal agencies, should encour-  
22       age the private sector to develop interoperability  
23       standards for such emerging homeland security tech-  
24       nology; and





1           “(B) for the use of Department compo-  
2           nents outside the Directorate, under an agree-  
3           ment with the head of such a component under  
4           which the component will reimburse the Direc-  
5           torate for the costs of such employment.

6           “(2) RESPONSIBILITIES.—Under such an  
7           agreement—

8           “(A) the Under Secretary shall—

9           “(i) solicit and accept applications  
10           from individuals who are currently enrolled  
11           in graduate programs, or have received a  
12           graduate degree within 3 years prior to the  
13           time of application in scientific and engi-  
14           neering fields related to the promotion of  
15           securing the homeland, including—

16           “(I) biological, chemical, physical,  
17           behavioral, social, health, medical, and  
18           computational sciences;

19           “(II) geosciences;

20           “(III) all fields of engineering;

21           and

22           “(IV) such other disciplines as  
23           are determined relevant by the Sec-  
24           retary;

1           “(ii) screen applicant candidates and  
2 interview them as appropriate to ensure  
3 that they possess the appropriate level of  
4 scientific and engineering expertise and  
5 qualifications;

6           “(iii) provide a list of qualified appli-  
7 cants to the heads of Department compo-  
8 nents seeking to utilize qualified fellows;

9           “(iv) pay financial compensation to  
10 such fellows;

11           “(v) coordinate with the Chief Secu-  
12 rity Officer to facilitate and expedite provi-  
13 sion of security clearances to fellows, as  
14 appropriate; and

15           “(vi) otherwise administer all aspects  
16 of the fellows’ employment with the De-  
17 partment; and

18           “(B) the head of the component utilizing  
19 the fellow shall—

20           “(i) select a fellow from the list of  
21 qualified applicants provided by the Under  
22 Secretary;

23           “(ii) reimburse the Under Secretary  
24 for the costs of employing the fellow se-  
25 lected; and

1                   “(iii) be responsible for the day-to-day  
2                   management of the fellow.

3           “(c) APPLICATIONS FROM ASSOCIATIONS.—The  
4 Under Secretary may accept applications under subsection  
5 (b)(2)(A) that are submitted by science or policy associa-  
6 tions on behalf of individuals whom such an association  
7 has determined may be qualified applicants under the pro-  
8 gram.”.

9           (b) CLERICAL AMENDMENT.—The table of contents  
10 in section 1(b) of such Act is further amended by adding  
11 at the end of the items relating to title III the following  
12 new item:

“Sec. 324. Homeland Security Science and Technology Fellows Program.”.

13 **SEC. 416. BIOLOGICAL THREAT AGENT ASSAY EQUIVA-**  
14 **LENCY.**

15           (a) IN GENERAL.—Title III (6 U.S.C. 181 et seq.)  
16 is further amended by adding at the end the following new  
17 section:

18 **“SEC. 325. BIOLOGICAL THREAT AGENT ASSAY EQUIVA-**  
19 **LENCY PROGRAM.**

20           “(a) IN GENERAL.—To facilitate equivalent biological  
21 threat agent identification among federally operated bio-  
22 monitoring programs, the Under Secretary, in consulta-  
23 tion with other relevant Federal agencies, may implement  
24 an assay equivalency program for biological threat assays.

1       “(b) FEATURES.—In order to establish assay per-  
2 formance equivalency to support homeland security and  
3 public health security decisions, the program may—

4               “(1) evaluate biological threat detection assays,  
5 their protocols for use, and their associated response  
6 algorithms for confirmation of biological threat  
7 agents, taking performance measures and concepts  
8 of operation into consideration; and

9               “(2) develop assay equivalency standards based  
10 on the findings of the evaluation under paragraph  
11 (1).

12       “(c) UPDATE.—The Under Secretary shall update  
13 the program as necessary.

14       “(d) IMPLEMENTATION.—The Secretary shall—

15               “(1) require implementation of the standards  
16 developed under subsection (b)(2) for all Depart-  
17 ment biomonitoring programs; and

18               “(2) make such standards available to support  
19 all other Federal biomonitoring programs.

20       “(e) ASSAY DEFINED.—In this section the term  
21 ‘assay’ means any scientific test that is—

22               “(1) designed to detect the presence of a bio-  
23 logical threat agent; and

24               “(2) of a type selected under criteria estab-  
25 lished by the Secretary.”.

1 (b) CLERICAL AMENDMENT.—The table of contents  
2 in section 1(b) is further amended by adding at the end  
3 of the items relating to title III the following new item:

“Sec. 325. Biological threat agent assay equivalency program.”.

4 **SEC. 417. STUDY OF FEASIBILITY AND BENEFIT OF EX-**  
5 **PANDING OR ESTABLISHING PROGRAM TO**  
6 **CREATE A NEW CYBERSECURITY CAPACITY**  
7 **BUILDING TRACK AT CERTAIN INSTITUTIONS**  
8 **OF HIGHER EDUCATION.**

9 (a) IN GENERAL.—Within 90 days of enactment, the  
10 Secretary, in coordination with the National Science  
11 Foundation, shall commission a study by a nonprofit re-  
12 search institution to determine the feasibility and potential  
13 benefit of expanding the Federal Cyber Service Scholar-  
14 ship for Service Program, or establishing a parallel pro-  
15 gram, as methods to create a new cybersecurity or infor-  
16 mation assurance capacity building track at institutions  
17 of higher education that are not currently designated as  
18 a National Center of Academic Excellence in Information  
19 Assurance Education or a National Center of Academic  
20 Excellence in Research.

21 (b) SUBJECT MATTERS.—The study under sub-  
22 section (a) shall include examinations of the following:

23 (1) The feasibility and potential benefit of al-  
24 lowing the following types of institutions into the ex-  
25 isting Federal Cyber Service program:

1 (A) Community colleges.

2 (B) Institutions offering an undergraduate  
3 degree, graduate degree, or post-graduate de-  
4 gree, but do not qualify under the existing pro-  
5 gram.

6 (C) Institutions offering a certificate or in-  
7 dustry-recognized credential.

8 (2) The feasibility and potential benefit of es-  
9 tablishing a new program modeled after the Federal  
10 Cyber Service program to build capacity at—

11 (A) community colleges;

12 (B) institutions offering an undergraduate  
13 degree, graduate degree, or post-graduate de-  
14 gree, but do not qualify under the existing pro-  
15 gram; or

16 (C) institutions offering a certificate or in-  
17 dustry-recognized credential.

18 (3) The projected extent to which an expansion  
19 of the existing Federal Cyber Service program as de-  
20 scribed in paragraph (1) would—

21 (A) expand the availability of qualified in-  
22 dividuals to work in information assurance and  
23 cybersecurity within the Department and other  
24 Federal, State, local, and tribal agencies, and  
25 the private sector;

1 (B) encourage institutions of higher edu-  
2 cation to develop a new information assurance  
3 or cybersecurity education undergraduate de-  
4 gree programs, graduate degree programs, or  
5 programs conferring a certificate or industry-  
6 recognized credential;

7 (C) increase the number of students grad-  
8 uating annually from existing information as-  
9 surance or cybersecurity education under-  
10 graduate degree programs, graduate degree  
11 programs, or programs conferring a certificate  
12 or industry-recognized credential; or

13 (D) improve existing information assur-  
14 ance or cybersecurity education undergraduate  
15 degree programs, graduate degree programs, or  
16 programs conferring a certificate or industry-  
17 recognized credential.

18 (4) The projected extent to which the establish-  
19 ment of a new program modeled after the Federal  
20 Cyber Service program as described in paragraph  
21 (2) would—

22 (A) expand the availability of qualified in-  
23 dividuals to work in information assurance and  
24 cybersecurity within the Department and other

1 Federal, State, local, and tribal agencies, and  
2 the private sector;

3 (B) encourage institutions of higher edu-  
4 cation to develop a new information assurance  
5 or cybersecurity education undergraduate de-  
6 gree programs, graduate degree programs, or  
7 programs conferring a certificate or industry-  
8 recognized credential;

9 (C) increase the number of students grad-  
10 uating annually from existing information as-  
11 surance or cybersecurity education under-  
12 graduate degree programs, graduate degree  
13 programs, or programs conferring a certificate  
14 or industry-recognized credential; or

15 (D) improve existing information assur-  
16 ance or cybersecurity education undergraduate  
17 degree programs, graduate degree programs, or  
18 programs conferring a certificate or industry-  
19 recognized credential.

20 (e) REPORT.—Not later than 30 days after receiving  
21 the findings of the study, the Secretary shall transmit the  
22 findings, together with any comments thereon by the Sec-  
23 retary, to the appropriate congressional committees.



1 **SEC. 418. SENSE OF CONGRESS REGARDING CENTERS OF**  
2 **EXCELLENCE.**

3 It is the sense of Congress that centers of excellence  
4 have the potential—

5 (1) to be a very useful tool in developing defen-  
6 sive countermeasures to secure critical infrastructure  
7 and prevent terrorism; and

8 (2) to play a key role in the Department’s ef-  
9 forts to research and develop new technologies to se-  
10 cure the homeland.

11 **SEC. 419. ASSESSMENT, RESEARCH, TESTING, AND EVALUA-**  
12 **TION OF TECHNOLOGIES TO MITIGATE THE**  
13 **THREAT OF SMALL VESSEL ATTACK.**

14 The Under Secretary may—

15 (1) assess what technologies are available to  
16 mitigate the threat of small vessel attack in secure  
17 zones of ports, including the use of transponders or  
18 radio frequency identification devices to track small  
19 vessels; and

20 (2) conduct research, testing, and evaluation of  
21 new technologies that might be capable of tracking  
22 small vessels.

23 **SEC. 420. RESEARCH AND DEVELOPMENT PROJECTS.**

24 Section 831 (6 U.S.C. 391) is amended—

25 (1) in subsection (a), by striking “2010,” and  
26 inserting “2012,”;

1           (2) in subsection (a), by adding at the end the  
2 following new paragraph:

3           “(3) PRIOR APPROVAL.—In any case in which  
4 the Under Secretary for Science and Technology in-  
5 tends to exercise other transaction authority, the  
6 Under Secretary must receive prior approval from  
7 the Secretary after submitting to the Secretary a  
8 proposal that includes the rationale for why a grant  
9 or contract issued in accordance with the Federal  
10 Acquisition Regulation is not feasible or appropriate  
11 and the amount to be expended for such project. In  
12 such a case, the authority for evaluating the pro-  
13 posal may not be delegated by the Secretary to any-  
14 one other than the Under Secretary for Manage-  
15 ment.”; and

16           (3) by redesignating subsection (e) as sub-  
17 section (i), and by inserting after subsection (d) the  
18 following new subsections:

19           “(e) ANNUAL REPORT ON EXERCISE OF OTHER  
20 TRANSACTION AUTHORITY.—

21           “(1) IN GENERAL.—The Secretary shall submit  
22 to the appropriate congressional committees an an-  
23 nual report on the exercise of other transaction au-  
24 thority.

1           “(2) CONTENT.—The report shall include the  
2 following:

3           “(A) The subject areas in which research  
4 projects were conducted using other transaction  
5 authority.

6           “(B) The extent of cost-sharing for such  
7 projects among Federal and non-Federal  
8 sources.

9           “(C) The extent to which use of other  
10 transaction authority has addressed a homeland  
11 security capability gap identified by the Depart-  
12 ment.

13           “(D) The total amount of payments, if  
14 any, that were received by the Federal Govern-  
15 ment as a result of such exercise of other trans-  
16 action authority during the period covered by  
17 the report.

18           “(E) The rationale for using other trans-  
19 action authority, including why grants or con-  
20 tracts issued in accordance with the Federal  
21 Acquisition Regulation were not feasible or ap-  
22 propriate.

23           “(F) the amount expended for each such  
24 project.

1       “(f) TRAINING.—The Secretary shall develop a train-  
2 ing program for acquisitions staff in the use of other  
3 transaction authority to help ensure the appropriate use  
4 of such authority.

5       “(g) REVIEW AUTHORITY.—The exercise of other  
6 transaction authority shall be subject to review by the  
7 Comptroller General of the United States to ensure that  
8 an agency is not attempting to avoid the requirements of  
9 procurement statutes and regulations.

10       “(h) OTHER TRANSACTION AUTHORITY DEFINED.—  
11 In this section the term ‘other transaction authority’  
12 means authority under subsection (a).”.

13 **SEC. 421. NATIONAL URBAN SECURITY TECHNOLOGY LAB-**  
14 **ORATORY.**

15       (a) IN GENERAL.—The National Urban Security  
16 Technology Laboratory (formerly the Environmental  
17 Measurements Laboratory) is authorized within the Direc-  
18 torate for fiscal years 2011 and 2012.

19       (b) RESPONSIBILITIES.—The Under Secretary shall  
20 utilize the National Urban Security Technology Labora-  
21 tory to test, evaluate, and analyze homeland security capa-  
22 bilities and serve as a technical authority to first respond-  
23 ers and State and local entities, including by—

24               (1) conducting test programs, pilots projects,  
25               demonstrations, and other forms of evaluations of

1 homeland security technologies both in the field and  
2 in the laboratory;

3 (2) applying knowledge of operational end-user  
4 environments and support for operational integration  
5 to technology development, including—

6 (A) training;

7 (B) exercises;

8 (C) equipment;

9 (D) tactics;

10 (E) techniques; and

11 (F) procedures;

12 (3) representing interests and requirements be-  
13 tween technology developers and operational end-  
14 users; and

15 (4) supporting development and use of home-  
16 land security equipment and operational standards.

17 **SEC. 422. HOMELAND SECURITY SCIENCE AND TECH-**  
18 **NOLOGY ADVISORY COMMITTEE.**

19 Section 301 of the Homeland Security Act of 2002  
20 (6 U.S.C. 191) is amended—

21 (1) by striking subsection (a) and inserting the  
22 following new subsection:

23 “(a) There is established within the Department a  
24 science and technology advisory committee (in this section  
25 referred to as the ‘advisory committee’). The advisory

1 committee shall make recommendations with respect to  
2 the activities of the under secretary for science and tech-  
3 nology, including—

4 “(1) identifying research areas of potential im-  
5 portance to the security of the Nation; and

6 “(2) providing advice in developing and updat-  
7 ing the strategic plan required under section 318.”.

8 (2) by striking subsection (j).

9 **TITLE V—DOMESTIC NUCLEAR**  
10 **DETECTION OFFICE**

11 **SEC. 501. AUTHORIZATION OF APPROPRIATIONS.**

12 There is authorized to be appropriated for the Do-  
13 mestic Nuclear Detection Office of the Department—

14 (1) \$305,840,000 for fiscal year 2011; and

15 (2) \$315,005,000 for fiscal year 2012.

16 **SEC. 502. DOMESTIC NUCLEAR DETECTION OFFICE OVER-**  
17 **SIGHT.**

18 (a) SENSE OF CONGRESS.—It is the sense of Con-  
19 gress that the Directorate should conduct basic and inno-  
20 vative research and nondevelopmental testing on behalf of  
21 the Domestic Nuclear Detection Office (in this section re-  
22 ferred to as “DNDO”), in order to advance next genera-  
23 tion nuclear detection technologies.

24 (b) INTERNAL REVIEW OF PROJECT SELECTION AND  
25 EVALUATION METHODOLOGY.—Not later than 90 days

1 after the date of enactment of this Act, the Director of  
2 the DNDO, the Under Secretary, and the heads of all  
3 operational components of the Department that own, oper-  
4 ate, or maintain nuclear or radiological detection equip-  
5 ment shall begin an internal review of the methodology  
6 by which research, development, testing, and evaluation is  
7 identified, prioritized, and funded within the Department.

8 (c) CONTENTS OF REVIEW.—In carrying out the re-  
9 view under subsection (b), the Director of the DNDO  
10 shall—

11 (1) identify the process by which basic and ap-  
12 plied research and operational testing that should be  
13 conducted in concert and under agreement with the  
14 Directorate;

15 (2) describe the roles, responsibilities, common  
16 definitions, standard operating procedures, and deci-  
17 sion process for research, development, testing, and  
18 evaluation activities;

19 (3) describe and implement a transparent sys-  
20 tem for tracking research, development, testing, and  
21 evaluation requirements;

22 (4) describe and implement a mechanism to  
23 provide regular updates to components of the De-  
24 partment on the progress of such research;

1           (5) evaluate the degree to which needs of the  
2           operational components of the Department and  
3           State and local first responders are being adequately  
4           addressed by the existing project selection process,  
5           and if not, how such process can be improved;

6           (6) establish a method to collect and evaluate  
7           Department component feedback;

8           (7) utilize departmental matrices and systems  
9           to determine if technologies produced by the Direc-  
10          torate have enhanced the ability of Department com-  
11          ponents to perform their missions;

12          (8) identify appropriate five-year levels of in-  
13          vestment in basic and applied research and develop-  
14          ment, in particular among the Department labora-  
15          tories, federally funded research and development  
16          centers, university-based centers, Department of En-  
17          ergy national laboratories, and other Federal labora-  
18          tories;

19          (9) project balance of use of the entities re-  
20          ferred to in paragraph (8) among the Directorate  
21          and other Department components; and

22          (10) establish a formal merit review process,  
23          with external peer review where appropriate.

24          (d) REPORT.—Not later than one year after the com-  
25          pletion of the review required by subsection (b), the Direc-



1 tor of the DNDO shall submit to the Secretary and the  
2 appropriate congressional committees a report containing  
3 the findings of such review, together with information on  
4 the systems, methods, and mechanisms established, and  
5 recommendations for additional improvements.

6 (e) UPDATES ON IMPLEMENTATION.—One hundred  
7 and twenty days after the date of enactment of this Act,  
8 and annually thereafter, the Inspector General of the De-  
9 partment shall submit to the appropriate congressional  
10 committees an update on the status of implementation of  
11 this section and activities in support of such implementa-  
12 tion.

13 **SEC. 503. STRATEGIC PLAN AND FUNDING ALLOCATIONS**  
14 **FOR GLOBAL NUCLEAR DETECTION ARCHI-**  
15 **TECTURE.**

16 Not later than 180 days after the date of enactment  
17 of this Act, the Secretary shall submit to the appropriate  
18 congressional committees a report containing the fol-  
19 lowing:

20 (1) A strategic plan for the global nuclear de-  
21 tection architecture to deter and detect the transport  
22 of nuclear or radioactive materials by all means pos-  
23 sible, with specific focus on establishing the goals,  
24 objectives, and cost projections for the next five  
25 years, including a discussion of—

1 (A) technological and nontechnological  
2 methods to increase detection capabilities;

3 (B) the preventive nature of the global nu-  
4 clear detection architecture, including projected  
5 impact on would-be terrorists;

6 (C) detection capability enhancements for  
7 the various transportation modes, at ports of  
8 entry and between ports of entry;

9 (D) balanced risk-based deployment of de-  
10 tection assets across all border and other path-  
11 ways; and

12 (E) any emerging threat vectors identified  
13 by the Director of the Domestic Nuclear Detec-  
14 tion Office.

15 (2) In consultation with the Secretary of De-  
16 fense, the Secretary of Energy, the Secretary of  
17 State, the Nuclear Regulatory Commission, the In-  
18 telligence Community, and the Attorney General, an  
19 analysis of overall budget allocations that determines  
20 whether Government wide nuclear detection re-  
21 sources clearly align with identified priorities to  
22 maximize results and minimize duplication of efforts.

23 **SEC. 504. RADIATION PORTAL MONITOR ALTERNATIVES.**

24 (a) SENSE OF CONGRESS.—It is the sense of Con-  
25 gress that in view of the Secretary’s decision not to certify

1 advanced spectroscopic portal monitors for primary  
2 screening applications because they do not offer a signifi-  
3 cant increase in operational effectiveness over existing  
4 technology, the Director must attempt to identify viable  
5 alternatives.

6 (b) ANALYSIS AND REPORT.—The Director of the  
7 Domestic Nuclear Detection Office shall analyze and re-  
8 port to the appropriate congressional committees by not  
9 later than 90 days after the date of enactment of this Act  
10 on both existing and developmental alternatives to existing  
11 radiation portal monitors and advanced spectroscopic por-  
12 tal monitors that would provide the Department with a  
13 significant increase in operational effectiveness for pri-  
14 mary screening for radioactive materials.

15 **SEC. 505. AUTHORIZATION OF SECURING THE CITIES INI-**  
16 **TIATIVE.**

17 (a) FINDINGS.—Congress finds the following:

18 (1) The Securing the Cities Initiative of the De-  
19 partment uses next generation radiation detection  
20 technology to detect the transport of nuclear and ra-  
21 diological material in urban areas by terrorists or  
22 other unauthorized individuals.

23 (2) The technology used by partners in the Se-  
24 curing the Cities Initiative leverages radiation detec-  
25 tion technology used at ports of entry.

1           (3) The Securing the Cities Initiative has fos-  
2           tered unprecedented collaboration and coordination  
3           among its Federal, State, and local partners.

4           (4) The Securing the Cities Initiative is a crit-  
5           ical national capability to detect the dangerous intro-  
6           duction of nuclear and radiological material.

7           (b) AUTHORIZATION OF APPROPRIATIONS.—Of  
8           amounts authorized by section 501, there is authorized to  
9           be appropriated to the Director of the Domestic Nuclear  
10          Detection Office of the Department for the Securing the  
11          Cities Initiative such sums as may be necessary for each  
12          of fiscal years 2011 and 2012, including—

13           (1) for each city in which it has been imple-  
14          mented by fiscal year 2009—

15                   (A) \$20,000,000 for fiscal year 2011; and

16                   (B) \$10,000,000 for fiscal year 2012; and

17           (2) for additional Securing the Cities initiatives  
18          to be implemented in not fewer than 2 sites partici-  
19          pating in the Urban Area Security Initiative, such  
20          sums as may be necessary each fiscal year to imple-  
21          ment and sustain each additional initiative.

1                   **TITLE VI—CLARIFYING**  
2                   **AMENDMENTS**

3   **SEC. 601. FEDERALLY FUNDED RESEARCH AND DEVELOP-**  
4                   **MENT CENTERS.**

5           Section 305 (6 U.S.C. 184) is amended—

6                   (1) by inserting “(a) ESTABLISHMENT.—” be-  
7           fore the first sentence; and

8                   (2) by adding at the end the following new sub-  
9           sections:

10           “(b) CONGRESSIONAL TASKING.—Upon a request of  
11 the chairman and the ranking minority member of an ap-  
12 propriate congressional committee, a federally funded re-  
13 search and development center established under this sec-  
14 tion may perform independent analysis of homeland secu-  
15 rity issues and report its findings to the appropriate con-  
16 gressional committees and the Secretary.

17           “(c) CONGRESSIONAL OVERSIGHT.—Federally fund-  
18 ed research and development centers established under  
19 this section are encouraged, upon request of the chairman  
20 and the ranking minority member of an appropriate con-  
21 gressional committee, to provide to the committee a copy  
22 of any report it produces for the Department or any of  
23 its components.

24           “(d) CONFLICTS OF INTEREST.—The Secretary shall  
25 review and revise, as appropriate, the policies of the De-

1 partment relating to personnel conflicts of interest to en-  
2 sure that such policies specifically address employees of  
3 federally funded research and development centers estab-  
4 lished under this section who are in a position to make  
5 or materially influence research findings or agency deci-  
6 sionmaking.

7 “(e) ANNUAL REPORTS.—Each federally funded re-  
8 search and development center established under this sec-  
9 tion shall transmit to the Secretary and appropriate con-  
10 gressional committees an annual report on the activities  
11 of the center.”.

12 **SEC. 602. ELIMINATION OF HOMELAND SECURITY INSTI-**  
13 **TUTE.**

14 (a) REPEAL.—Section 312 (6 U.S.C. 192) is re-  
15 pealed.

16 (b) CLERICAL AMENDMENT.—The table of contents  
17 in section 1(b) is amended by striking the item relating  
18 to such section.

19 **SEC. 603. GAO STUDY OF THE IMPLEMENTATION OF THE**  
20 **STATUTORY RELATIONSHIP BETWEEN THE**  
21 **DEPARTMENT AND THE DEPARTMENT OF EN-**  
22 **ERGY NATIONAL LABORATORIES.**

23 (a) IN GENERAL.—Not later than one year after the  
24 date of the enactment of this Act, the Comptroller General  
25 of the United States shall—

1           (1) conduct a study to assess the implementa-  
2           tion of the statutory relationship between the De-  
3           partment and the Department of Energy national  
4           laboratories, as established by section 309(a)(2) of  
5           the Homeland Security Act of 2002 (6 U.S.C.  
6           189(a)(2)); and

7           (2) submit recommendations to the appropriate  
8           congressional committees for appropriate improve-  
9           ments to such relationship.

10          (b) STUDY SUBJECTS.—The study shall include the  
11 following:

12           (1) Review of how the Department and the De-  
13           partment of Energy national laboratories—

14                   (A) communicate needs and capabilities;  
15                   and

16                   (B) select projects to be performed by the  
17           Department of Energy national laboratories  
18           under such statutory relationship.

19           (2) Review of contracting mechanisms that the  
20           Department and the Department of Energy national  
21           laboratories use to initiate and track work under  
22           such statutory relationship.

23           (3) Review of the fraction of Department of  
24           Energy national laboratory work performed for the  
25           Department under such statutory relationship, com-

1       pared to other Department of Energy national lab-  
2       oratory work performed for the Department on a  
3       “work for others” basis.

4               (4) Review the cost savings identified by the  
5       Department and the Department of Energy achieved  
6       through use of such statutory relationship, compared  
7       to other Department of Energy national laboratory  
8       work performed for the Department on a “work for  
9       others” basis.

10 **SEC. 604. TECHNICAL CHANGES.**

11       Section 1902 of the Homeland Security Act (6 U.S.C.  
12 592) is amended by—

13               (1) striking paragraph (6); and

14               (2) redesignating paragraphs (7) through (14)  
15       as paragraphs (6) through (13), respectively.

16 **TITLE VII—COMMISSION ON THE**  
17 **PROTECTION OF CRITICAL**  
18 **ELECTRIC AND ELECTRONIC**  
19 **INFRASTRUCTURES**

20 **SEC. 701. COMMISSION ON THE PROTECTION OF CRITICAL**  
21 **ELECTRIC AND ELECTRONIC INFRASTRUC-**  
22 **TURES.**

23       (a) ESTABLISHMENT.—There is established the Com-  
24 mission on the Protection of Critical Electric and Elec-



1 tronic Infrastructures (in this section referred to as the  
2 “Commission”).

3 (b) PURPOSES.—

4 (1) IN GENERAL.—The purposes of the Com-  
5 mission are to—

6 (A) assess vulnerabilities of electric and  
7 electronic infrastructures, including—

8 (i) all components of the United  
9 States electric grid, including electricity  
10 generation, transmission, distribution and  
11 metering; and

12 (ii) all computerized control systems  
13 used in all United States critical infra-  
14 structure sectors;

15 (B) provide a clear and comprehensive  
16 strategy and specific recommendations for pro-  
17 tecting these critical electric and electronic in-  
18 frastructures; and

19 (C) test, evaluate, and report on specific  
20 mitigation protection and recovery devices or  
21 methods.

22 (2) IN PARTICULAR.—The Commission shall  
23 give particular attention to threats that can disrupt  
24 or damage critical electric and electronic infrastruc-  
25 tures, including—

1 (A) cyber attacks or unintentional cyber  
2 disruption;

3 (B) electromagnetic phenomena such as  
4 geomagnetically induced currents, intentional  
5 electromagnetic interference, and electro-  
6 magnetic pulses caused by nuclear weapons;  
7 and

8 (C) other physical attack, act of nature, or  
9 accident.

10 (c) COMPOSITION OF COMMISSION.—

11 (1) MEMBERS.—The Commission shall be com-  
12 posed of 9 members, of whom—

13 (A) 1 member shall be appointed by the  
14 Chairman of the House of Representatives  
15 Committee on Homeland Security;

16 (B) 1 member shall be appointed by the  
17 ranking minority member of the House of Rep-  
18 resentatives Committee on Homeland Security;

19 (C) 1 member shall be appointed by the  
20 Chairman of the House of Representatives  
21 Committee on Energy and Commerce;

22 (D) 1 member shall be appointed by the  
23 ranking minority member of the House of Rep-  
24 resentatives Committee on Energy and Com-  
25 merce;

1           (E) 1 member shall be appointed by the  
2 Chairman of the Senate Committee on Home-  
3 land Security and Governmental Affairs;

4           (F) 1 member shall be appointed by the  
5 ranking minority member of the Senate Com-  
6 mittee on Homeland Security and Govern-  
7 mental Affairs;

8           (G) 1 member shall be appointed by the  
9 Chairman of the Senate Committee on Energy  
10 and Natural Resources;

11           (H) 1 member shall be appointed by the  
12 ranking minority member of the Senate Com-  
13 mittee on Energy and Natural Resources; and

14           (I) 1 member who shall serve as the Chair-  
15 man of the Commission, and who shall be ap-  
16 pointed by the Speaker of the House of Rep-  
17 resentatives with the concurrence of the Presi-  
18 dent Pro Tempore of the Senate.

19           (2) QUALIFICATIONS.—It is the sense of Con-  
20 gress that individuals appointed to the Commission  
21 should have significant depth of experience in elec-  
22 tric and electronic infrastructures, their function,  
23 and their protection, as well as the threats to these  
24 infrastructures as identified in subsection (b)(2).

1           (3) DEADLINE FOR APPOINTMENT.—All mem-  
2           bers of the Commission shall be appointed within 30  
3           days after the date of enactment of this Act.

4           (4) INITIAL MEETING.—The Commission shall  
5           meet and begin the operations of the Commission as  
6           soon as practicable.

7           (5) QUORUM; VACANCIES.—After its initial  
8           meeting, the Commission shall meet upon the call of  
9           the Chairman or a majority of its members. Six  
10          members of the Commission shall constitute a  
11          quorum. Any vacancy in the Commission shall not  
12          affect its powers, but shall be filled in the same  
13          manner in which the original appointment was  
14          made.

15          (d) RESPONSIBILITIES OF COMMISSION.—The Com-  
16          mission shall address—

17                (1) the quantification of the threats identified  
18                in subsection (b)(2) to the United States electric and  
19                electronic infrastructure, and a cost-benefit analysis  
20                of possible protection and recovery strategies;

21                (2) the roles, missions, and structure of all rel-  
22                evant Federal, State, and local government depart-  
23                ments and agencies with responsibilities for ensuring  
24                protection and reliability for electric and electronic  
25                infrastructures;

1           (3) the roles, missions, and structure of all rel-  
2           evant private sector entities with responsibilities for  
3           ensuring protection and reliability for electric and  
4           electronic infrastructures;

5           (4) inter-agency coordination between and  
6           among the entities identified in paragraphs (2) and  
7           (3); and

8           (5) recommendations for protections and recov-  
9           ery devices and measures.

10       (e) POWERS OF COMMISSION.—

11           (1) HEARINGS AND EVIDENCE.—The Commis-  
12           sion or, on the authority of the Commission, any  
13           subcommittee or member thereof, may, for the pur-  
14           pose of carrying out this section, hold such hearings  
15           and sit and act at such times and places, take such  
16           testimony, receive such evidence, and administer  
17           such oaths as the Commission or such designated  
18           subcommittee or designated member may determine  
19           advisable.

20           (2) CONTRACTING.—The Commission may, to  
21           such extent and in such amounts as are provided in  
22           appropriations Acts, enter into contracts to enable  
23           the Commission to discharge its duties under this  
24           subtitle.

25           (3) STAFF OF COMMISSION.—

1 (A) APPOINTMENT AND COMPENSATION.—

2 The Chairman of the Commission, in accord-  
3 ance with rules agreed upon by the Commis-  
4 sion, may appoint and fix the compensation of  
5 a staff director and such other personnel as  
6 may be necessary to enable the Commission to  
7 carry out its functions, without regard to the  
8 provisions of title 5, United States Code, gov-  
9 erning appointments in the competitive service,  
10 and without regard to the provisions of chapter  
11 51 and subchapter III of chapter 53 of such  
12 title relating to classification and General  
13 Schedule pay rates, except that no rate of pay  
14 fixed under this subsection may exceed the  
15 equivalent of that payable for a position at level  
16 I of the Executive Schedule under section 5316  
17 of title 5, United States Code.

18 (B) PERSONNEL AS FEDERAL EMPLOY-

19 EES.—

20 (i) IN GENERAL.—The executive di-  
21 rector and any employees of the Commis-  
22 sion shall be employees under section 2105  
23 of title 5, United States Code, for purposes  
24 of chapters 63, 81, 83, 84, 85, 87, 89, and  
25 90 of that title.

1 (ii) MEMBERS OF COMMISSION.—Sub-  
2 paragraph (A) shall not be construed to  
3 apply to members of the Commission.

4 (C) DETAILEES.—Any Federal Govern-  
5 ment employee may be detailed to the Commis-  
6 sion without reimbursement from the Commis-  
7 sion, and such detailee shall retain the rights,  
8 status, and privileges of his or her regular em-  
9 ployment without interruption.

10 (D) CONSULTANT SERVICES.—The Com-  
11 mission may procure the services of experts and  
12 consultants in accordance with section 3109 of  
13 title 5, United States Code, but at rates not to  
14 exceed the daily rate paid a person occupying a  
15 position at level I of the Executive Schedule  
16 under section 5315 of title 5, United States  
17 Code.

18 (E) SECURITY CLEARANCES.—The Chair-  
19 man shall place an emphasis on hiring and re-  
20 taining employees, contractors, and detailees  
21 with active security clearances. For employees  
22 who do not have security clearances but are de-  
23 termined by the Chairman to need them, the  
24 Central Intelligence Agency, Department of En-  
25 ergy, Department of Defense, and any other

1 relevant agency shall expedite the necessary  
2 clearance processes.

3 (F) FORMER EMP COMMISSION STAFF AND  
4 RESOURCES.—The Chairman may make use of  
5 any existing and viable staff and resources pre-  
6 viously employed by the Commission to Assess  
7 the Threat to the United States from Electro-  
8 magnetic Pulse Attack established by section  
9 1401 of Public Law 106–398 (114 Stat.  
10 1654A–345).

11 (4) INFORMATION FROM FEDERAL AGENCIES.—

12 (A) IN GENERAL.—The Commission may  
13 secure directly from any executive department,  
14 bureau, agency, board, commission, office, inde-  
15 pendent establishment, or instrumentality of the  
16 Government, information, suggestions, esti-  
17 mates, and statistics for the purposes of this  
18 section. Each department, bureau, agency,  
19 board, commission, office, independent estab-  
20 lishment, or instrumentality shall, to the extent  
21 authorized by law, furnish such information,  
22 suggestions, estimates, and statistics directly to  
23 the Commission, upon request made by the  
24 Chairman, the chairman of any subcommittee  
25 created by a majority of the Commission, or



1 any member designated by a majority of the  
2 Commission.

3 (B) RECEIPT, HANDLING, STORAGE, AND  
4 DISSEMINATION.—Information shall only be re-  
5 ceived, handled, stored, and disseminated by  
6 members of the Commission and its staff con-  
7 sistent with all applicable statutes, regulations,  
8 and Executive orders.

9 (5) ASSISTANCE FROM FEDERAL AGENCIES.—

10 (A) GENERAL SERVICES ADMINISTRA-  
11 TION.—The Administrator of General Services  
12 shall provide to the Commission on a reimburs-  
13 able basis and as necessary, administrative sup-  
14 port and other services for the performance of  
15 the Commission's functions.

16 (B) OTHER DEPARTMENTS AND AGEN-  
17 CIES.—In addition to the assistance prescribed  
18 in paragraph (1), departments and agencies of  
19 the United States may provide to the Commis-  
20 sion such services, funds, facilities, staff, and  
21 other support services as they may determine  
22 advisable and as may be authorized by law.

23 (6) GIFTS.—The Commission may accept, use,  
24 and dispose of gifts or donations of services or prop-  
25 erty.

1           (7) POSTAL SERVICES.—The Commission may  
2           use the United States mails in the same manner and  
3           under the same conditions as departments and agen-  
4           cies of the United States.

5           (f) PUBLIC MEETINGS AND RELEASE OF PUBLIC  
6           VERSIONS OF REPORTS.—The Commission shall—

7           (1) hold public hearings and meetings to the ex-  
8           tent appropriate;

9           (2) release public versions of the report re-  
10          quired under subsection (g); and

11          (3) conduct any public hearing in a manner  
12          consistent with the protection of sensitive or classi-  
13          fied information provided to or developed for or by  
14          the Commission as required by any applicable stat-  
15          ute, regulation, or Executive order.

16          (g) REPORT.—Not later than 180 days after the ap-  
17          pointment of the Commission, and annually thereafter, the  
18          Commission shall submit to the President and Congress  
19          a report containing such findings, conclusions, and rec-  
20          ommendations for protection and recovery measures for  
21          electric and electronic infrastructures as have been agreed  
22          to by a majority of Commission members.

23          (h) FUNDING.—Of the amounts authorized by section  
24          101, there is authorized to be appropriated for the activi-  
25          ties of the Commission under this section—

1 (1) \$4,000,000 for fiscal year 2011; and

2 (2) \$4,000,000 for fiscal year 2012.

3 **TITLE VIII—BORDER SECURITY**  
4 **TECHNOLOGY INNOVATION**

5 **SEC. 801. ENSURING RESEARCH ACTIVITIES OF THE DE-**  
6 **PARTMENT OF HOMELAND SECURITY IN-**  
7 **CLUDE APPROPRIATE CONCEPTS OF OPER-**  
8 **ATION.**

9 The Under Secretary shall ensure that any Federal  
10 Government interagency or intra-agency agreement en-  
11 tered into by the Under Secretary to develop and transi-  
12 tion new technology explicitly characterizes the require-  
13 ments, expected use, and concept of operations for that  
14 technology, including—

15 (1) the manpower needed to effectively operate  
16 the technology;

17 (2) the expected training requirements; and

18 (3) the expected operations and maintenance  
19 costs.

20 **SEC. 802. REPORT ON BASIC RESEARCH NEEDS FOR BOR-**  
21 **DER AND MARITIME SECURITY.**

22 Not later than 6 months after the date of enactment  
23 of this Act, the Under Secretary shall enter into an ar-  
24 rangement with the National Research Council for a one-  
25 year assessment of the basic science research needs in the

1 border and maritime security domain. The assessment  
2 shall include consideration of—

3 (1) detection, tracking, and identification tech-  
4 nologies for cargo and people;

5 (2) personal protective equipment;

6 (3) document security and authentication tech-  
7 nologies;

8 (4) nonradiological advanced screening tech-  
9 nologies at ports of entry; and

10 (5) technologies for real time tactical scene  
11 awareness.

12 **SEC. 803. INCORPORATING UNMANNED AERIAL VEHICLES**  
13 **INTO BORDER AND MARITIME AIRSPACE.**

14 (a) RESEARCH AND DEVELOPMENT.—The Secretary  
15 and the Director of the Joint Planning and Development  
16 Office shall research and develop technologies to permit  
17 routine operation of unmanned aerial vehicles, including  
18 autonomously piloted drones, within the national airspace  
19 for border and maritime security missions without any  
20 degradation of existing levels of safety for all national air-  
21 space system users.

22 (b) PILOT PROJECTS.—The Secretary shall coordi-  
23 nate with the Administrator of the Federal Aviation Ad-  
24 ministration and the Director of the Joint Planning Office  
25 to enter into pilot projects in sparsely populated, low-den-

1 sity Class G air traffic airspace to conduct experiments  
2 and collect data in order to accelerate the safe integration  
3 of unmanned aircraft systems into the national airspace  
4 system as part of research activities of the Joint Planning  
5 and Development Office.

6 **SEC. 804. ESTABLISHING A RESEARCH PROGRAM IN TUN-**  
7 **NEL DETECTION.**

8 (a) RESEARCH AND DEVELOPMENT.—The Under  
9 Secretary shall research and develop technologies to per-  
10 mit detection of near surface voids, such as tunnels, with  
11 an emphasis on technologies with real time capability.

12 (b) COORDINATION.—The Secretary shall coordinate  
13 with other appropriate Federal agencies, including the De-  
14 partment of Defense and the United States Geological  
15 Survey, and ensure the integration of activities under sub-  
16 section (a) with relevant efforts of such other agencies and  
17 the Department’s Centers of Excellence Program.

18 **SEC. 805. RESEARCH IN DOCUMENT SECURITY AND AU-**  
19 **THENTICATION TECHNOLOGIES.**

20 (a) ESTABLISHMENT OF PROGRAM.—The Under Sec-  
21 retary, in coordination with the Director of the National  
22 Institute of Standards and Technology, shall conduct a re-  
23 search and development program on document security,  
24 validation, and authentication technologies and standards.  
25 The program may include assessment or development of

1 imitation-resistant and tamper-resistant documentation,  
2 imitation-resistant or tamper-resistant devices, document  
3 validation and authentication technologies, and document  
4 identification standards.

5 (b) COORDINATION.—In carrying out the program in  
6 subsection (a), the Under Secretary shall coordinate with  
7 other Federal agencies engaged in similar activities, in-  
8 cluding Immigration and Customs Enforcement, the De-  
9 partment of State, the Department of Defense, the United  
10 States Coast Guard, and the Department of Justice.

11 (c) REPORT TO CONGRESS.—Not later than 12  
12 months after the date of enactment of this Act, the Under  
13 Secretary and the Director of the National Institute of  
14 Standards and Technology shall provide to the Committee  
15 on Homeland Security and the Committee on Science and  
16 Technology of the House of Representatives, and the Com-  
17 mittee on Homeland Security and Government Affairs of  
18 the Senate, a report detailing the actions taken by the  
19 Under Secretary and the Director under this section.

20 **SEC. 806. STUDY ON GLOBAL POSITIONING SYSTEM TECH-**  
21 **NOLOGIES.**

22 (a) IN GENERAL.—The Under Secretary shall con-  
23 duct a study of the need for next generation global posi-  
24 tioning system technology as it relates to border security,  
25 including—



1 and Border Protection, shall establish a research program  
2 on the use of mobile biometric technology at the Nation's  
3 borders between the ports of entry, including—

4 (1) conducting an analysis of existing mobile bi-  
5 ometric technologies and the extent to which they  
6 can be deployed in Border Patrol agents' vehicles  
7 and used at the border, in terms of operability, reli-  
8 ability, cost, and overall benefit to border operations;

9 (2) undertaking an examination of the potential  
10 end-user requirements of mobile biometric tech-  
11 nology by the Border Patrol and other relevant end-  
12 users;

13 (3) developing recommendations for addressing  
14 capability gaps in mobile biometric technologies; and

15 (4) examining the feasibility of implementing a  
16 pilot program for use of mobile biometric tech-  
17 nologies at the border.

18 (b) CONSULTATION.—In conducting the research pro-  
19 gram under subsection (a), the Under Secretary shall con-  
20 sult the National Institute of Standards and Technology,  
21 other appropriate Federal agencies, and appropriate Fed-  
22 eral, State, and local law enforcement officials.

23 (c) COORDINATION.—The Secretary shall ensure that  
24 the research program is coordinated with other biometric  
25 identification programs within the Department.



1 (d) REPORT.—Not later than 6 months after the date  
2 of enactment of this Act, the Under Secretary shall trans-  
3 mit to Congress a report on the findings of the research  
4 program conducted under this section.

5 **SEC. 808. AUTHORIZATION OF APPROPRIATIONS.**

6 Of the amount authorized by section 101 of this Act,  
7 such sums as may be necessary are authorized to be ap-  
8 propriated to carry out this title.

Passed the House of Representatives July 20, 2010.

Attest:

*Clerk.*

111<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**H. R. 4842**

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**AN ACT**

To authorize appropriations for the Directorate of Science and Technology of the Department of Homeland Security for fiscal years 2011 and 2012, and for other purposes.