

115TH CONGRESS
1ST SESSION

H. R. 1907

To direct the Secretary of Homeland Security to conduct research and development to mitigate the consequences of threats to voting systems, to amend the Help America Vote Act of 2002 to require the voting systems used in elections for Federal office to comply with national standards developed by the National Institute of Standards and Technology for operational security and ballot verification, to establish programs to promote research in innovative voting system technologies, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 5, 2017

Mr. JOHNSON of Georgia (for himself, Mr. CONYERS, Mr. POCAN, Mr. MEEKS, Mr. CICILLINE, Mr. RASKIN, Mr. COHEN, Mr. RUSH, Mr. BISHOP of Georgia, Ms. CLARKE of New York, Ms. NORTON, Ms. LEE, Mr. HASTINGS, Ms. JACKSON LEE, Mrs. WATSON COLEMAN, Ms. SLAUGHTER, Ms. WILSON of Florida, Mr. TED LIEU of California, Mr. SCOTT of Virginia, Mr. DAVID SCOTT of Georgia, Mr. HUFFMAN, Mr. DANNY K. DAVIS of Illinois, Mr. RICHMOND, Ms. FUDGE, Ms. BASS, Mr. BUTTERFIELD, Mr. CUMMINGS, Mr. AL GREEN of Texas, Ms. MAXINE WATERS of California, Mr. NORCROSS, Mr. MCNERNEY, Mr. PAYNE, Ms. JUDY CHU of California, Ms. ESHOO, and Mr. SMITH of Washington) introduced the following bill; which was referred to the Committee on House Administration, and in addition to the Committees on Science, Space, and Technology, and Homeland Security, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To direct the Secretary of Homeland Security to conduct research and development to mitigate the consequences of threats to voting systems, to amend the Help America

Vote Act of 2002 to require the voting systems used in elections for Federal office to comply with national standards developed by the National Institute of Standards and Technology for operational security and ballot verification, to establish programs to promote research in innovative voting system technologies, 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,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
 5 “Election Infrastructure and Security Promotion Act of
 6 2017”.

7 (b) TABLE OF CONTENTS.—The table of contents of
 8 this Act is as follows:

Sec. 1. Short title; table of contents.

TITLE I—ELECTION INFRASTRUCTURE AND SECURITY

Sec. 101. Definition of critical infrastructure.

Sec. 102. Designation of voting systems as critical infrastructure.

Sec. 103. Voting system threat and research and development.

TITLE II—NATIONAL STANDARDS FOR VOTING SYSTEM
SECURITY

Sec. 201. Development of standards.

Sec. 202. Requiring States to comply with standards in administration of elections for Federal office.

Sec. 203. Incorporation of standards into certification and testing of voting systems.

TITLE III—NATIONAL STANDARDS FOR TRANSPARENCY AND
VERIFICATION OF BALLOT COUNTING

Sec. 301. Development of standards.

Sec. 302. Requiring States to comply with standards in administration of elections for Federal office.

TITLE IV—RESEARCH AND DEVELOPMENT

Sec. 401. Innovative election technology research and development.

1 **TITLE I—ELECTION INFRA-**
2 **STRUCTURE AND SECURITY**

3 **SEC. 101. DEFINITION OF CRITICAL INFRASTRUCTURE.**

4 In this title, the term “critical infrastructure” has the
5 meaning given such term in section 1016 of the Critical
6 Infrastructure Protection Act of 2001 (42 U.S.C.
7 5195c(e)).

8 **SEC. 102. DESIGNATION OF VOTING SYSTEMS AS CRITICAL**
9 **INFRASTRUCTURE.**

10 The Secretary of Homeland Security, acting through
11 the Assistant Secretary of the National Protection and
12 Programs Directorate, shall—

13 (1) designate voting systems used in the United
14 States as critical infrastructure;

15 (2) include threats of compromise, disruption,
16 or destruction of voting systems in national planning
17 scenarios; and

18 (3) conduct a campaign to proactively educate
19 local election officials about the designation of voting
20 systems as critical infrastructure and election offi-
21 cials at all levels of government of voting system
22 threats.

1 **SEC. 103. VOTING SYSTEM THREAT AND RESEARCH AND**
2 **DEVELOPMENT.**

3 (a) IN GENERAL.—In furtherance of local election of-
4 ficial preparedness and response, the Secretary of Home-
5 land Security, acting through the Under Secretary for
6 Science and Technology, and in consultation with other
7 relevant agencies and departments of the Federal Govern-
8 ment and relevant State and local election official opera-
9 tors of election infrastructure, shall conduct research and
10 development to mitigate the consequences of voting sys-
11 tems threats.

12 (b) SCOPE.—The scope of the research and develop-
13 ment under subsection (a) shall include the following:

14 (1) An objective scientific analysis of the risks
15 to critical election infrastructures from a range of
16 threats.

17 (2) Determination of the voting system assets
18 and infrastructures that are at risk from intrusion,
19 compromise, disruption or destruction.

20 (3) An evaluation of emergency planning and
21 response technologies that would address the find-
22 ings and recommendations of experts, including
23 those of a Commission to Assess the Threat to the
24 United States from election administration or voting
25 system attack.

1 (4) An analysis of technology options that are
2 available to improve the resiliency of critical infra-
3 structure to voting system threats.

4 (5) The restoration and recovery capabilities of
5 critical infrastructure under differing levels of dam-
6 age and disruption.

7 (c) COMPREHENSIVE PLAN.—

8 (1) IN GENERAL.—The Secretary of Homeland
9 Security shall prepare and submit to the Committee
10 on Homeland Security of the House of Representa-
11 tives and the Committee on Homeland Security and
12 Governmental Affairs of the Senate a comprehensive
13 plan to protect and prepare the critical infrastruc-
14 ture of the voting systems used in the United States
15 against threats, including from acts of terrorism.

16 (2) PLAN REQUIREMENTS.—The comprehensive
17 plan shall—

18 (A) be based on findings of the research
19 and development conducted under subsection
20 (a);

21 (B) be developed in consultation with the
22 relevant Federal sector-specific agencies (as de-
23 fined under Homeland Security Presidential Di-
24 rective for critical infrastructures); and

1 (C) be developed in consultation with State
2 and local election officials.

3 (3) UPDATES.—The Secretary shall update the
4 plan required under this subsection biennially.

5 **TITLE II—NATIONAL STAND-**
6 **ARDS FOR VOTING SYSTEM**
7 **SECURITY**

8 **SEC. 201. DEVELOPMENT OF STANDARDS.**

9 (a) DEVELOPMENT.—The Director of the National
10 Institute of Standards and Technology shall develop
11 standards for ensuring the operational security of the vot-
12 ing systems used in elections for Federal office, including
13 the physical and cybersecurity of such systems and secu-
14 rity requirements for the personnel who operate such sys-
15 tems.

16 (b) CONTENTS OF STANDARDS.—In developing
17 standards under this title, the Director shall ensure the
18 following:

19 (1) The standards shall set forth specific, evi-
20 dence-based security requirements for the operation
21 of each individual component of voting systems, in-
22 cluding components for marking ballots, scanning
23 ballots, aggregating vote tallies from vote counters,
24 and electronic poll books.

1 (2) The standards shall set forth specific, evi-
2 dence-based requirements for the interoperability of
3 the components, based on data standards established
4 by the National Institute of Standards and Tech-
5 nology.

6 (3) No system or device upon which ballots or
7 votes are cast or tabulated shall be connected to the
8 Internet at any time through any publicly accessible
9 network.

10 (4) No system or device upon which ballots or
11 votes are cast or tabulated shall contain, use, or be
12 accessible by any wireless, power-line, or concealed
13 communication device.

14 (c) DEADLINE; UPDATES.—

15 (1) DEADLINE FOR INITIAL STANDARDS.—The
16 Director shall develop the standards under this title
17 not later than 1 year after the date of the enactment
18 of this Act.

19 (2) UPDATES.—The Director may update the
20 standards under this title at such times as the Di-
21 rector considers appropriate.

1 **SEC. 202. REQUIRING STATES TO COMPLY WITH STAND-**
2 **ARDS IN ADMINISTRATION OF ELECTIONS**
3 **FOR FEDERAL OFFICE.**

4 Section 301(a) of the Help America Vote Act of 2002
5 (52 U.S.C. 21081(a)) is amended by adding at the end
6 the following new paragraph:

7 “(7) COMPLIANCE WITH SECURITY STAND-
8 ARDS.—In operating the voting system, the State
9 shall comply with the applicable standards developed
10 by the Director of the National Institute of Stand-
11 ards and Technology under title II of the Election
12 Infrastructure and Security Promotion Act of 2017
13 for ensuring the operational security of voting sys-
14 tems.”.

15 **SEC. 203. INCORPORATION OF STANDARDS INTO CERTIFI-**
16 **CATION AND TESTING OF VOTING SYSTEMS.**

17 Section 231(a) of the Help America Vote Act of 2002
18 (52 U.S.C. 20971(a)) is amended by adding at the end
19 the following new paragraph:

20 “(3) ENSURING COMPLIANCE WITH OPER-
21 ATIONAL SECURITY STANDARDS.—The testing and
22 certification of voting system hardware and software
23 carried out under this subtitle shall test whether vot-
24 ing systems are in compliance with the applicable
25 standards developed by the Director of the National
26 Institute of Standards and Technology under title II

1 of the Election Infrastructure and Security Pro-
2 motion Act of 2017 for ensuring the operational se-
3 curity of voting systems, including testing whether
4 the components of voting systems meet the compo-
5 nent-specific security requirements and the system
6 interoperability requirements under such stand-
7 ards.”.

8 **TITLE III—NATIONAL STAND-**
9 **ARDS FOR TRANSPARENCY**
10 **AND VERIFICATION OF BAL-**
11 **LOT COUNTING**

12 **SEC. 301. DEVELOPMENT OF STANDARDS.**

13 (a) DEVELOPMENT.—The Director of the National
14 Institute of Standards and Technology shall develop
15 standards for ensuring that the process by which ballots
16 are counted in elections for Federal office is transparent
17 and permits voters to verify that votes in such elections
18 are counted correctly.

19 (b) CONTENTS OF STANDARDS.—In developing
20 standards under this title, the Director shall ensure the
21 following:

22 (1) Election officials will provide the public with
23 sufficient evidence to verify the results of an election
24 for Federal office, including through the establish-
25 ment of tracking procedures that permit members of

1 the public to track the ballots counted in the elec-
2 tion, so long as such procedures ensure the anonym-
3 ity of the individuals who cast the ballots.

4 (2) All of the data used or produced by the rel-
5 evant components of a voting system used in an elec-
6 tion for Federal office.

7 (3) Election officials shall make all of the rel-
8 evant components of a voting system used in an elec-
9 tion for Federal office available to other parties
10 (such as other officials of the State, research organi-
11 zations, and institutions of higher education) to du-
12 plicate the testing procedures used to certify the use
13 of the system for use in such elections.

14 (c) DEADLINE; UPDATES.—

15 (1) DEADLINE FOR INITIAL STANDARDS.—The
16 Director shall develop the standards under this title
17 not later than 1 year after the date of the enactment
18 of this Act.

19 (2) UPDATES.—The Director may update the
20 standards under this title at such times as the Di-
21 rector considers appropriate.

22 (d) RELEVANT COMPONENTS DEFINED.—In this sec-
23 tion, the term “relevant components” means, with respect
24 to a voting system, each component of the system which
25 is involved with counting ballots and producing a tally of

1 the ballots cast, including the source code, build tools,
2 build procedure documentation, test plans, test fixtures,
3 and software and hardware specifications.

4 **SEC. 302. REQUIRING STATES TO COMPLY WITH STAND-**
5 **ARDS IN ADMINISTRATION OF ELECTIONS**
6 **FOR FEDERAL OFFICE.**

7 Section 301(a) of the Help America Vote Act of 2002
8 (52 U.S.C. 21081(a)), as amended by section 202, is
9 amended by adding at the end the following new para-
10 graph:

11 “(8) COMPLIANCE WITH TRANSPARENCY AND
12 BALLOT VERIFICATION STANDARDS.—In operating
13 the voting system, the State shall comply with the
14 applicable standards developed by the Director of
15 the National Institute of Standards and Technology
16 under title III of the Election Infrastructure and Se-
17 curity Promotion Act of 2017 for ensuring that the
18 process by which ballots are counted in elections for
19 Federal office is transparent and permits voters to
20 verify that votes in such elections are counted cor-
21 rectly.”.

TITLE IV—RESEARCH AND DEVELOPMENT

SEC. 401. INNOVATIVE ELECTION TECHNOLOGY RESEARCH AND DEVELOPMENT.

(a) IN GENERAL.—The National Science Foundation, in cooperation with the Defense Advanced Research Projects Agency, shall establish an election technology innovation research and development program. Such program—

(1) shall support the development of hardware and software technologies and systems for marking ballots, scanning ballots, aggregating tallies from counters, and electronic poll books; and

(2) may also support research and development on other elements of technology for voting, election administration, auditing, and other election-critical operations.

(b) REQUIREMENTS.—The National Science Foundation shall, to the extent practicable and in consultation with the Election Assistance Commission and the National Institute of Standards and Technology, ensure that technologies developed through assistance provided under this section—

(1) conform to any applicable standards and guidelines for design and for data interoperability

1 established by the National Institute of Standards
2 and Technology; and

3 (2) are made available for use by Federal,
4 State, and local governments at no cost.

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