

115TH CONGRESS
2D SESSION

S. _____

To provide for enhanced energy grid security.

IN THE SENATE OF THE UNITED STATES

_____ introduced the following bill; which was read twice
and referred to the Committee on _____

A BILL

To provide for enhanced energy grid security.

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.**

4 This Act may be cited as the “Energy Cybersecurity
5 Act of 2018”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

8 (1) DEPARTMENT.—The term “Department”
9 means the Department of Energy.

10 (2) ELECTRIC UTILITY.—The term “electric
11 utility” has the meaning given the term in section
12 3 of the Federal Power Act (16 U.S.C. 796).

1 (3) ES-ISAC.—The term “ES-ISAC” means
2 the Electricity Sector Information Sharing and
3 Analysis Center.

4 (4) NATIONAL LABORATORY.—The term “Na-
5 tional Laboratory” has the meaning given the term
6 in section 2 of the Energy Policy Act of 2005 (42
7 U.S.C. 15801).

8 (5) SECRETARY.—The term “Secretary” means
9 the Secretary of Energy.

10 **SEC. 3. ENHANCED GRID SECURITY.**

11 (a) CYBERSECURITY FOR THE ENERGY SECTOR RE-
12 SEARCH, DEVELOPMENT, AND DEMONSTRATION PRO-
13 GRAM.—

14 (1) IN GENERAL.—The Secretary, in consulta-
15 tion with appropriate Federal agencies, the energy
16 sector, the States, and other stakeholders, shall
17 carry out a program—

18 (A) to develop advanced cybersecurity ap-
19 plications and technologies for the energy sec-
20 tor—

21 (i) to identify and mitigate
22 vulnerabilities, including—

23 (I) dependencies on other critical
24 infrastructure; and

1 (II) impacts from weather and
2 fuel supply; and

3 (ii) to advance the security of field de-
4 vices and third-party control systems, in-
5 cluding—

6 (I) systems for generation, trans-
7 mission, distribution, end use, and
8 market functions;

9 (II) specific electric grid elements
10 including advanced metering, demand
11 response, distributed generation, and
12 electricity storage;

13 (III) forensic analysis of infected
14 systems; and

15 (IV) secure communications;

16 (B) to leverage electric grid architecture as
17 a means to assess risks to the energy sector, in-
18 cluding by implementing an all-hazards ap-
19 proach to communications infrastructure, con-
20 trol systems architecture, and power systems
21 architecture;

22 (C) to perform pilot demonstration projects
23 with the energy sector to gain experience with
24 new technologies; and

1 (D) to develop workforce development cur-
2 ricula for energy sector-related cybersecurity.

3 (2) AUTHORIZATION OF APPROPRIATIONS.—

4 There is authorized to be appropriated to carry out
5 this subsection \$65,000,000 for each of fiscal years
6 2018 through 2026.

7 (b) ENERGY SECTOR COMPONENT TESTING FOR
8 CYBERRESILIENCE PROGRAM.—

9 (1) IN GENERAL.—The Secretary shall carry
10 out a program—

11 (A) to establish a cybertesting and mitiga-
12 tion program to identify vulnerabilities of en-
13 ergy sector supply chain products to known
14 threats;

15 (B) to oversee third-party cybertesting;
16 and

17 (C) to develop procurement guidelines for
18 energy sector supply chain components.

19 (2) AUTHORIZATION OF APPROPRIATIONS.—

20 There is authorized to be appropriated to carry out
21 this subsection \$15,000,000 for each of fiscal years
22 2018 through 2026.

23 (c) ENERGY SECTOR OPERATIONAL SUPPORT FOR
24 CYBERRESILIENCE PROGRAM.—

1 (1) IN GENERAL.—The Secretary may carry out
2 a program—

3 (A) to enhance and periodically test—

4 (i) the emergency response capabilities
5 of the Department; and

6 (ii) the coordination of the Depart-
7 ment with other agencies, the National
8 Laboratories, and private industry;

9 (B) to expand cooperation of the Depart-
10 ment with the intelligence communities for en-
11 ergy sector-related threat collection and anal-
12 ysis;

13 (C) to enhance the tools of the Department
14 and ES–ISAC for monitoring the status of the
15 energy sector;

16 (D) to expand industry participation in
17 ES–ISAC; and

18 (E) to provide technical assistance to small
19 electric utilities for purposes of assessing
20 cybermaturity level.

21 (2) AUTHORIZATION OF APPROPRIATIONS.—

22 There is authorized to be appropriated to carry out
23 this subsection \$10,000,000 for each of fiscal years
24 2018 through 2026.

1 (d) MODELING AND ASSESSING ENERGY INFRA-
2 STRUCTURE RISK.—

3 (1) IN GENERAL.—The Secretary shall develop
4 an advanced energy security program to secure en-
5 ergy networks, including electric, natural gas, and
6 oil exploration, transmission, and delivery.

7 (2) SECURITY AND RESILIENCY OBJECTIVE.—
8 The objective of the program developed under para-
9 graph (1) is to increase the functional preservation
10 of the electric grid operations or natural gas and oil
11 operations in the face of natural and human-made
12 threats and hazards, including electric magnetic
13 pulse and geomagnetic disturbances.

14 (3) ELIGIBLE ACTIVITIES.—In carrying out the
15 program developed under paragraph (1), the Sec-
16 retary may—

17 (A) develop capabilities to identify
18 vulnerabilities and critical components that pose
19 major risks to grid security if destroyed or im-
20 paired;

21 (B) provide modeling at the national level
22 to predict impacts from natural or human-made
23 events;

24 (C) develop a maturity model for physical
25 security and cybersecurity;

1 (D) conduct exercises and assessments to
2 identify and mitigate vulnerabilities to the elec-
3 tric grid, including providing mitigation rec-
4 ommendations;

5 (E) conduct research hardening solutions
6 for critical components of the electric grid;

7 (F) conduct research mitigation and recov-
8 ery solutions for critical components of the elec-
9 tric grid; and

10 (G) provide technical assistance to States
11 and other entities for standards and risk anal-
12 ysis.

13 (4) AUTHORIZATION OF APPROPRIATIONS.—
14 There is authorized to be appropriated to carry out
15 this subsection \$10,000,000 for each of fiscal years
16 2018 through 2026.

17 (e) LEVERAGING EXISTING PROGRAMS.—The pro-
18 grams established under this section shall be carried out
19 consistent with—

20 (1) the report of the Department entitled
21 “Roadmap to Achieve Energy Delivery Systems Cy-
22 bersecurity” and dated 2011;

23 (2) existing programs of the Department; and

24 (3) any associated strategic framework that
25 links together academic and National Laboratory re-

1 searchers, electric utilities, manufacturers, and any
2 other relevant private industry organizations, includ-
3 ing the Electricity Sub-sector Coordinating Council.

4 (f) STUDY.—

5 (1) IN GENERAL.—Not later than 180 days
6 after the date of enactment of this Act, the Sec-
7 retary, in consultation with the Federal Energy Reg-
8 ulatory Commission and the North American Elec-
9 tric Reliability Corporation, shall conduct a study to
10 explore alternative management structures and fund-
11 ing mechanisms to expand industry membership and
12 participation in ES-ISAC.

13 (2) REPORT.—The Secretary shall submit to
14 the appropriate committees of Congress a report de-
15 scribing the results of the study conducted under
16 paragraph (1).