

[COMMITTEE PRINT]

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111TH CONGRESS
2^D SESSION

H. R. _____

To amend the Federal Power Act to protect the bulk-power system and electric infrastructure critical to the defense of the United States from cybersecurity and other threats and vulnerabilities.

IN THE HOUSE OF REPRESENTATIVES

M____. _____ introduced the following bill; which was referred to the
Committee on _____

A BILL

To amend the Federal Power Act to protect the bulk-power system and electric infrastructure critical to the defense of the United States from cybersecurity and other threats and vulnerabilities.

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 “Grid Reliability and
5 Infrastructure Defense Act” or the “GRID Act”.

1 **SEC. 2. AMENDMENT TO THE FEDERAL POWER ACT.**

2 (a) CRITICAL ELECTRIC INFRASTRUCTURE SECUR-
3 RITY.—Part II of the Federal Power Act (16 U.S.C. 824
4 et seq.) is amended by adding after section 215 the fol-
5 lowing new section:

6 **“SEC. 215A. CRITICAL ELECTRIC INFRASTRUCTURE SECUR-**
7 **RITY.**

8 “(a) DEFINITIONS.—For purposes of this section:

9 “(1) BULK-POWER SYSTEM; ELECTRIC RELI-
10 ABILITY ORGANIZATION; REGIONAL ENTITY.—The
11 terms ‘bulk-power system’, ‘Electric Reliability Or-
12 ganization’, and ‘regional entity’ have the meanings
13 given such terms in paragraphs (1), (2), and (7) of
14 section 215(a), respectively.

15 “(2) DEFENSE CRITICAL ELECTRIC INFRA-
16 STRUCTURE.—The term ‘defense critical electric in-
17 frastructure’ means any infrastructure located in the
18 United States (including the territories) used for the
19 generation, transmission, or distribution of electric
20 energy that—

21 “(A) is not part of the bulk-power system;
22 and

23 “(B) serves a facility designated by the
24 President pursuant to subsection (d)(1), but is
25 not owned or operated by the owner or operator
26 of such facility.

1 “(3) DEFENSE CRITICAL ELECTRIC INFRA-
2 STRUCTURE VULNERABILITY.—The term ‘defense
3 critical electric infrastructure vulnerability’ means a
4 weakness in defense critical electric infrastructure
5 that, in the event of a malicious act using electronic
6 communication or an electromagnetic weapon, would
7 pose a substantial risk of disruption of those pro-
8 grammable electronic devices and communications
9 networks, including hardware, software, and data,
10 that are essential to the reliability of defense critical
11 electric infrastructure.

12 “(4) ELECTROMAGNETIC WEAPON.—The term
13 ‘electromagnetic weapon’ means a weapon (other
14 than a nuclear device) capable of disabling, dis-
15 rupting, or destroying electronic equipment by trans-
16 mitting 1 or more pulses of electromagnetic energy,
17 such as high-power radio frequency or microwave en-
18 ergy.

19 “(5) GEOMAGNETIC STORM.—The term ‘geo-
20 magnetic storm’ means a temporary disturbance of
21 the Earth’s magnetic field resulting from solar activ-
22 ity.

23 “(6) GRID SECURITY THREAT.—The term ‘grid
24 security threat’ means a substantial likelihood of—

1 “(A)(i) a malicious act using electronic
2 communication or an electromagnetic weapon,
3 or a geomagnetic storm event, that could dis-
4 rupt the operation of those programmable elec-
5 tronic devices and communications networks,
6 including hardware, software, and data, that
7 are essential to the reliability of the bulk-power
8 system or of defense critical electric infrastruc-
9 ture; and

10 “(ii) disruption of the operation of such
11 devices and networks, with significant adverse
12 effects on the reliability of the bulk-power sys-
13 tem or of defense critical electric infrastructure,
14 as a result of such act or event; or

15 “(B)(i) a direct physical attack on the
16 bulk-power system or on defense critical electric
17 infrastructure; and

18 “(ii) significant adverse effects on the reli-
19 ability of the bulk-power system or of defense
20 critical electric infrastructure as a result of
21 such physical attack.

22 “(7) GRID SECURITY VULNERABILITY.—The
23 term ‘grid security vulnerability’ means a weakness
24 that, in the event of a malicious act using electronic
25 communication or an electromagnetic weapon, would

1 pose a substantial risk of disruption to the operation
2 of those programmable electronic devices and com-
3 munications networks, including hardware, software,
4 and data, that are essential to the reliability of the
5 bulk-power system.

6 “(8) LARGE TRANSFORMER.—The term ‘large
7 transformer’ means an electric transformer that is
8 part of the bulk-power system.

9 “(9) PROTECTED INFORMATION.—The term
10 ‘protected information’ means information, other
11 than classified national security information, des-
12 ignated as protected information by the Commission
13 under subsection (e)(2)—

14 “(A) that was developed or submitted in
15 connection with the implementation of this sec-
16 tion;

17 “(B) that specifically discusses grid secu-
18 rity threats, grid security vulnerabilities, de-
19 fense critical electric infrastructure
20 vulnerabilities, or plans, procedures, or meas-
21 ures to address such threats or vulnerabilities;
22 and

23 “(C) the unauthorized disclosure of which
24 could be used in a malicious manner to impair

1 the reliability of the bulk-power system or of
2 defense critical electric infrastructure.

3 “(10) SECRETARY.—The term ‘Secretary’
4 means the Secretary of Energy.

5 “(11) SECURITY.—For the purposes of this sec-
6 tion, the definition of ‘security’ in section 3(16) shall
7 not apply.

8 “(b) EMERGENCY RESPONSE MEASURES.—

9 “(1) AUTHORITY TO ADDRESS GRID SECURITY
10 THREATS.—Whenever the President issues and pro-
11 vides to the Commission (either directly or through
12 the Secretary) a written directive or determination
13 identifying an imminent grid security threat, the
14 Commission may, with or without notice, hearing, or
15 report, issue such orders for emergency measures as
16 are necessary in its judgment to protect the reli-
17 ability of the bulk-power system or of defense critical
18 electric infrastructure against such threat. As soon
19 as practicable but not later than 180 days after the
20 date of enactment of this section, the Commission
21 shall, after notice and opportunity for comment, es-
22 tablish rules of procedure that ensure that such au-
23 thority can be exercised expeditiously.

24 “(2) CONSULTATION.—Before issuing an order
25 for emergency measures under paragraph (1), the

1 Commission shall, to the extent practicable in light
2 of the nature of the grid security threat and the ur-
3 gency of the need for such emergency measures, con-
4 sult with appropriate governmental authorities in
5 Canada and Mexico, entities described in paragraph
6 (3), the Secretary, and other appropriate Federal
7 agencies regarding implementation of such emer-
8 gency measures.

9 “(3) APPLICATION.—An order for emergency
10 measures under this subsection may apply to—

11 “(A) the Electric Reliability Organization;

12 “(B) a regional entity; or

13 “(C) any owner, user, or operator of the
14 bulk-power system or of defense critical electric
15 infrastructure within the United States.

16 “(4) DISCONTINUANCE.—The Commission shall
17 issue an order discontinuing any emergency meas-
18 ures ordered under this subsection, effective not
19 later than 30 days after the earliest of the following:

20 “(A) The date upon which the President
21 issues and provides to the Commission (either
22 directly or through the Secretary) a written di-
23 rective or determination that the grid security
24 threat identified under paragraph (1) no longer
25 exists.

1 “(B) The date upon which the Commission
2 issues a written determination that the emer-
3 gency measures are no longer needed to address
4 the grid security threat identified under para-
5 graph (1), including by means of Commission
6 approval of a reliability standard under section
7 215 that the Commission determines adequately
8 addresses such threat.

9 “(C) The date that is 1 year after the
10 issuance of an order under paragraph (1), un-
11 less the President issues and provides to the
12 Commission (either directly or through the Sec-
13 retary) a written directive or determination re-
14 affirming the continuing nature of the grid se-
15 curity threat identified under paragraph (1),
16 provided that—

17 “(i) such directive or determination
18 shall be effective for purposes of this para-
19 graph for no longer than 1 additional year
20 unless extended through a subsequent di-
21 rective or determination reaffirming the
22 continuing nature of the grid security
23 threat identified under paragraph (1); and

24 “(ii) each such subsequent directive or
25 determination shall be effective for pur-

1 poses of this paragraph for no longer than
2 1 additional year.

3 “(5) COST RECOVERY.—If the Commission de-
4 termines that owners, operators, or users of the
5 bulk-power system or of defense critical electric in-
6 frastructure have incurred substantial costs to com-
7 ply with an order under this subsection and that
8 such costs were prudently incurred and cannot rea-
9 sonably be recovered through regulated rates or
10 market prices for the electric energy or services sold
11 by such owners, operators, or users, the Commission
12 shall, after notice and an opportunity for comment,
13 establish a mechanism that permits such owners, op-
14 erators, or users to recover such costs.

15 “(c) MEASURES TO ADDRESS GRID SECURITY
16 VULNERABILITIES.—

17 “(1) COMMISSION AUTHORITY.—If the Commis-
18 sion, in consultation with appropriate Federal agen-
19 cies, identifies a grid security vulnerability that the
20 Commission determines has not adequately been ad-
21 dressed through a reliability standard developed and
22 approved under section 215, the Commission shall,
23 after notice and opportunity for comment and after
24 consultation with the Secretary, other appropriate
25 Federal agencies, and appropriate governmental au-

1 thorities in Canada and Mexico, promulgate a rule
2 or issue an order requiring implementation, by any
3 owner, operator, or user of the bulk-power system in
4 the United States, of measures to protect the bulk-
5 power system against such vulnerability.

6 “(2) CERTAIN EXISTING CYBERSECURITY
7 VULNERABILITIES.—Not later than 180 days after
8 the date of enactment of this section, the Commis-
9 sion shall, after notice and opportunity for comment
10 and after consultation with appropriate Federal
11 agencies, including the Secretary, and appropriate
12 governmental authorities in Canada and Mexico,
13 promulgate a rule or issue an order requiring the
14 implementation, by any owner, user, or operator of
15 the bulk-power system in the United States, of such
16 measures as are necessary to protect the bulk-power
17 system against the vulnerabilities identified in the
18 June 21, 2007, communication to certain ‘Electricity
19 Sector Owners and Operators’ from the North
20 American Electric Reliability Corporation, acting in
21 its capacity as the Electricity Sector Information
22 and Analysis Center.

23 “(3) RESCISSION.—The Commission shall ap-
24 prove a reliability standard developed under section
25 215 that addresses a grid security vulnerability that

1 is the subject of a rule or order under paragraph (1)
2 or (2), unless the Commission determines that such
3 reliability standard does not adequately protect
4 against such vulnerability or otherwise does not sat-
5 isfy the requirements of section 215. Upon such ap-
6 proval, the Commission shall rescind the rule pro-
7 mulgated or order issued under paragraph (1) or (2)
8 addressing such vulnerability, effective upon the ef-
9 fective date of the newly approved reliability stand-
10 ard.

11 “(4) GEOMAGNETIC STORMS.—Not later than 1
12 year after the date of enactment of this section, the
13 Commission shall, after notice and an opportunity
14 for comment and after consultation with the Sec-
15 retary and other appropriate Federal agencies, issue
16 an order directing the Electric Reliability Organiza-
17 tion to submit to the Commission for approval under
18 section 215, not later than 1 year after the issuance
19 of such order, reliability standards adequate to pro-
20 tect the bulk-power system from any reasonably
21 foreseeable geomagnetic storm event. The Commis-
22 sion’s order shall specify the nature and magnitude
23 of the reasonably foreseeable events against which
24 such standards must protect. Such standards shall
25 appropriately balance the risks to the bulk-power

1 system associated with such events, including any
2 regional variation in such risks, and the costs of
3 mitigating such risks.

4 “(5) LARGE TRANSFORMER AVAILABILITY.—
5 Not later than 1 year after the date of enactment
6 of this section, the Commission shall, after notice
7 and an opportunity for comment and after consulta-
8 tion with the Secretary and other appropriate Fed-
9 eral agencies, issue an order directing the Electric
10 Reliability Organization to submit to the Commis-
11 sion for approval under section 215, not later than
12 1 year after the issuance of such order, reliability
13 standards addressing availability of large trans-
14 formers. Such standards shall require entities that
15 own or operate large transformers to ensure, individ-
16 ually or jointly, adequate availability of large trans-
17 formers to promptly restore the reliable operation of
18 the bulk-power system in the event that any such
19 transformer is destroyed or disabled as a result of
20 a reasonably foreseeable physical or other attack or
21 geomagnetic storm event. The Commission’s order
22 shall specify the nature and magnitude of the rea-
23 sonably foreseeable attacks or events that shall pro-
24 vide the basis for such standards. Such standards
25 shall—

1 “(A) provide entities subject to the stand-
2 ards with the option of meeting such standards
3 individually or jointly; and

4 “(B) appropriately balance the risks asso-
5 ciated with a reasonably foreseeable attack or
6 event, including any regional variation in such
7 risks, and the costs of ensuring adequate avail-
8 ability of spare transformers.

9 “(d) CRITICAL DEFENSE FACILITIES.—

10 “(1) DESIGNATION.—Not later than 180 days
11 after the date of enactment of this section, the
12 President shall designate, in a written directive or
13 determination provided to the Commission, the fa-
14 cilities located in the United States (including the
15 territories) that are—

16 “(A) most critical to the defense of the
17 United States; and

18 “(B) most vulnerable to a disruption of the
19 supply of electric energy provided to such facil-
20 ity by an external provider.

21 The number of facilities designated by such directive
22 or determination shall not exceed 100. The Presi-
23 dent may periodically revise the list of designated fa-
24 cilities through a subsequent written directive or de-
25 termination provided to the Commission, provided

1 that the total number of designated facilities at any
2 time shall not exceed 100.

3 “(2) COMMISSION AUTHORITY.—If the Commis-
4 sion identifies a defense critical electric infrastruc-
5 ture vulnerability that the Commission, in consulta-
6 tion with owners and operators of any facility or fa-
7 cilities designated by the President pursuant to
8 paragraph (1), determines has not adequately been
9 addressed through measures undertaken by owners
10 or operators of defense critical electric infrastruc-
11 ture, the Commission shall, after notice and an op-
12 portunity for comment and after consultation with
13 the Secretary and other appropriate Federal agen-
14 cies, promulgate a rule or issue an order requiring
15 implementation, by any owner or operator of defense
16 critical electric infrastructure, of measures to protect
17 the defense critical electric infrastructure against
18 such vulnerability. The Commission shall exempt
19 from any such rule or order any specific defense
20 critical electric infrastructure that the Commission
21 determines already has been adequately protected
22 against the identified vulnerability. The Commission
23 shall make any such determination in consultation
24 with the owner or operator of the facility designated

1 by the President pursuant to paragraph (1) that re-
2 lies upon such defense critical electric infrastructure.

3 “(3) COST RECOVERY.—An owner or operator
4 of defense critical electric infrastructure shall be re-
5 quired to take measures under paragraph (2) only to
6 the extent that the owners or operators of a facility
7 or facilities designated by the President pursuant to
8 paragraph (1) that rely upon such infrastructure
9 agree to bear the full incremental costs of compli-
10 ance with a rule promulgated or order issued under
11 paragraph (2).

12 “(e) PROTECTION OF INFORMATION.—

13 “(1) PROHIBITION OF PUBLIC DISCLOSURE OF
14 PROTECTED INFORMATION.—Protected informa-
15 tion—

16 “(A) shall be exempt from disclosure under
17 section 552 of title 5, United States Code; and

18 “(B) shall not be made available pursuant
19 to any State, local, or tribal law requiring dis-
20 closure of information or records.

21 “(2) INFORMATION SHARING.—

22 “(A) IN GENERAL.—Consistent with the
23 Controlled Unclassified Information framework
24 established by the President, the Commission
25 shall promulgate such regulations and issue

1 such orders as necessary to designate protected
2 information and to prohibit the unauthorized
3 disclosure of such protected information.

4 “(B) SHARING OF PROTECTED INFORMA-
5 TION.—The regulations promulgated and orders
6 issued pursuant to subparagraph (A) shall pro-
7 vide standards for and facilitate the appropriate
8 sharing of protected information with, between,
9 and by Federal, State, local, and tribal authori-
10 ties, the Electric Reliability Organization, re-
11 gional entities, and owners, operators, and
12 users of the bulk-power system in the United
13 States and of defense critical electric infrastruc-
14 ture. In promulgating such regulations and
15 issuing such orders, the Commission shall take
16 account of the role of State commissions in re-
17 viewing the prudence and cost of investments
18 within their respective jurisdictions. The Com-
19 mission shall consult with appropriate Canadian
20 and Mexican authorities to develop protocols for
21 the sharing of protected information with, be-
22 tween, and by appropriate Canadian and Mexi-
23 can authorities and owners, operators, and
24 users of the bulk-power system outside the
25 United States.

1 “(3) SUBMISSION OF INFORMATION TO CON-
2 GRESS.—Nothing in this section shall permit or au-
3 thorize the withholding of information from Con-
4 gress, any committee or subcommittee thereof, or
5 the Comptroller General.

6 “(4) DISCLOSURE OF NON-PROTECTED INFOR-
7 MATION.—In implementing this section, the Com-
8 mission shall protect from disclosure only the min-
9 imum amount of information necessary to protect
10 the reliability of the bulk-power system and of de-
11 fense critical electric infrastructure. The Commission
12 shall segregate protected information within docu-
13 ments and electronic communications, wherever fea-
14 sible, to facilitate disclosure of information that is
15 not designated as protected information.

16 “(5) DURATION OF DESIGNATION.—Informa-
17 tion may not be designated as protected information
18 for longer than 5 years, unless specifically redesign-
19 ated by the Commission.

20 “(6) REMOVAL OF DESIGNATION.—The Com-
21 mission may remove the designation of protected in-
22 formation, in whole or in part, from a document or
23 electronic communication if the unauthorized disclo-
24 sure of such information could no longer be used to

1 impair the reliability of the bulk-power system or of
2 defense critical electric infrastructure.

3 “(7) JUDICIAL REVIEW OF DESIGNATIONS.—

4 Notwithstanding subsection (f) of this section or sec-
5 tion 313, a person or entity may seek judicial review
6 of a determination by the Commission concerning
7 the designation of protected information under this
8 subsection exclusively in the district court of the
9 United States in the district in which the complain-
10 ant resides, or has his principal place of business, or
11 in the District of Columbia. In such a case the court
12 shall determine the matter de novo, and may exam-
13 ine the contents of documents or electronic commu-
14 nications designated as protected information in
15 camera to determine whether such documents or any
16 part thereof were improperly designated as protected
17 information. The burden is on the Commission to
18 sustain its designation.

19 “(f) JUDICIAL REVIEW.—The Commission shall act
20 expeditiously to resolve all applications for rehearing of
21 orders issued pursuant to this section that are filed under
22 section 313(a). Any party seeking judicial review pursuant
23 to section 313 of an order issued under this section may
24 obtain such review only in the United States Court of Ap-
25 peals for the District of Columbia Circuit.

1 “(g) PROVISION OF ASSISTANCE TO INDUSTRY IN
2 MEETING GRID SECURITY PROTECTION NEEDS.—

3 “(1) EXPERTISE AND RESOURCES.—The Sec-
4 retary shall establish a program, in consultation with
5 other appropriate Federal agencies, to develop tech-
6 nical expertise in the protection of systems for the
7 generation, transmission, and distribution of electric
8 energy against geomagnetic storms or malicious acts
9 using electronic communications or electromagnetic
10 weapons that would pose a substantial risk of dis-
11 ruption to the operation of those programmable elec-
12 tronic devices and communications networks, includ-
13 ing hardware, software, and data, that are essential
14 to the reliability of such systems. Such program
15 shall include the identification and development of
16 appropriate technical and electronic resources, in-
17 cluding hardware, software, and system equipment.

18 “(2) SHARING EXPERTISE.—As appropriate,
19 the Secretary shall offer to share technical expertise
20 developed under the program under paragraph (1),
21 through consultation and assistance, with owners,
22 operators, or users of systems for the generation,
23 transmission, or distribution of electric energy lo-
24 cated in the United States and with State commis-
25 sions. In offering such support, the Secretary shall

1 assign higher priority to systems serving facilities
2 designated by the President pursuant to subsection
3 (d)(1) and other critical-infrastructure facilities,
4 which the Secretary shall identify in consultation
5 with the Commission and other appropriate Federal
6 agencies.

7 “(3) SECURITY CLEARANCES AND COMMUNICA-
8 TION.—The Secretary shall facilitate and, to the ex-
9 tent practicable, expedite the acquisition of adequate
10 security clearances by key personnel of any entity
11 subject to the requirements of this section to enable
12 optimum communication with Federal agencies re-
13 garding grid security threats, grid security
14 vulnerabilities, and defense critical electric infra-
15 structure vulnerabilities. The Secretary, the Com-
16 mission, and other appropriate Federal agencies
17 shall, to the extent practicable and consistent with
18 their obligations to protect classified and protected
19 information, share timely actionable information re-
20 garding grid security threats, grid security
21 vulnerabilities, and defense critical electric infra-
22 structure vulnerabilities with appropriate key per-
23 sonnel of owners, operators, and users of the bulk-
24 power system and of defense critical electric infra-
25 structure.”.

1 (b) CONFORMING AMENDMENTS.—

2 (1) JURISDICTION.—Section 201(b)(2) of the
3 Federal Power Act (16 U.S.C. 824(b)(2)) is amend-
4 ed by inserting “215A,” after “215,” each place it
5 appears.

6 (2) PUBLIC UTILITY.—Section 201(e) of the
7 Federal Power Act (16 U.S.C. 824(e)) is amended
8 by inserting “215A,” after “215,”.