

111TH CONGRESS
2^D SESSION

H. R. 5026

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

APRIL 14, 2010

Mr. MARKEY of Massachusetts (for himself and Mr. UPTON) introduced the following bill; which was referred to the Committee on Energy and Commerce

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”.

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

7 (a) **CRITICAL ELECTRIC INFRASTRUCTURE SECUR-**
8 **RITY.**—Part II of the Federal Power Act (16 U.S.C. 824

1 et seq.) is amended by adding after section 215 the fol-
2 lowing new section:

3 **“SEC. 215A. CRITICAL ELECTRIC INFRASTRUCTURE SECUR-**
4 **RITY.**

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

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

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

18 “(A) is not part of the bulk-power system;

19 and

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

24 “(3) DEFENSE CRITICAL ELECTRIC INFRA-
25 STRUCTURE VULNERABILITY.—The term ‘defense

1 critical electric infrastructure vulnerability’ means a
2 weakness in defense critical electric infrastructure
3 that, in the event of a malicious act using electronic
4 communication or an electromagnetic weapon, would
5 pose a substantial risk of disruption of those pro-
6 grammable electronic devices and communications
7 networks, including hardware, software, and data,
8 that are essential to the reliability of defense critical
9 electric infrastructure.

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

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

21 “(6) GRID SECURITY THREAT.—The term ‘grid
22 security threat’ means a substantial likelihood of—
23 “(A)(i) a malicious act using electronic
24 communication or an electromagnetic weapon,
25 or a geomagnetic storm event, that could dis-

1 rupt the operation of those programmable elec-
2 tronic devices and communications networks,
3 including hardware, software, and data, that
4 are essential to the reliability of the bulk-power
5 system or of defense critical electric infrastruc-
6 ture; and

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

12 “(B)(i) a direct physical attack on the
13 bulk-power system or on defense critical electric
14 infrastructure; and

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

19 “(7) GRID SECURITY VULNERABILITY.—The
20 term ‘grid security vulnerability’ means a weakness
21 that, in the event of a malicious act using electronic
22 communication or an electromagnetic weapon, would
23 pose a substantial risk of disruption to the operation
24 of those programmable electronic devices and com-
25 munications networks, including hardware, software,

1 and data, that are essential to the reliability of the
2 bulk-power system.

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

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

11 “(A) that was developed or submitted in
12 connection with the implementation of this sec-
13 tion;

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

20 “(C) the unauthorized disclosure of which
21 could be used in a malicious manner to impair
22 the reliability of the bulk-power system or of
23 defense critical electric infrastructure.

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

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

4 “(b) EMERGENCY RESPONSE MEASURES.—

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

20 “(2) CONSULTATION.—Before issuing an order
21 for emergency measures under paragraph (1), the
22 Commission shall, to the extent practicable in light
23 of the nature of the grid security threat and the ur-
24 gency of the need for such emergency measures, con-
25 sult with appropriate governmental authorities in

1 Canada and Mexico, entities described in paragraph
2 (3), the Secretary, and other appropriate Federal
3 agencies regarding implementation of such emer-
4 gency measures.

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

7 “(A) the Electric Reliability Organization;

8 “(B) a regional entity; or

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

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

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

22 “(B) The date upon which the Commission
23 issues a written determination that the emer-
24 gency measures are no longer needed to address
25 the grid security threat identified under para-

1 graph (1), including by means of Commission
2 approval of a reliability standard under section
3 215 that the Commission determines adequately
4 addresses such threat.

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

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

20 “(ii) each such subsequent directive or
21 determination shall be effective for pur-
22 poses of this paragraph for no longer than
23 1 additional year.

24 “(5) COST RECOVERY.—If the Commission de-
25 termines that owners, operators, or users of the

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

11 “(c) MEASURES TO ADDRESS GRID SECURITY
12 VULNERABILITIES.—

13 “(1) COMMISSION AUTHORITY.—If the Commis-
14 sion, in consultation with appropriate Federal agen-
15 cies, identifies a grid security vulnerability that the
16 Commission determines has not adequately been ad-
17 dressed through a reliability standard developed and
18 approved under section 215, the Commission shall,
19 after notice and opportunity for comment and after
20 consultation with the Secretary, other appropriate
21 Federal agencies, and appropriate governmental au-
22 thorities in Canada and Mexico, promulgate a rule
23 or issue an order requiring implementation, by any
24 owner, operator, or user of the bulk-power system in

1 the United States, of measures to protect the bulk-
2 power system against such vulnerability.

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

20 “(3) RESCISSION.—The Commission shall ap-
21 prove a reliability standard developed under section
22 215 that addresses a grid security vulnerability that
23 is the subject of a rule or order under paragraph (1)
24 or (2), unless the Commission determines that such
25 reliability standard does not adequately protect

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

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

1 “(5) LARGE TRANSFORMER AVAILABILITY.—

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

23 “(A) provide entities subject to the stand-
24 ards with the option of meeting such standards
25 individually or jointly; and

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

6 “(d) CRITICAL DEFENSE FACILITIES.—

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

13 “(A) most critical to the defense of the
14 United States; and

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

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

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

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

10 “(e) PROTECTION OF INFORMATION.—

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

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

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

19 “(2) INFORMATION SHARING.—

20 “(A) IN GENERAL.—Consistent with the
21 Controlled Unclassified Information framework
22 established by the President, the Commission
23 shall promulgate such regulations and issue
24 such orders as necessary to designate protected

1 information and to prohibit the unauthorized
2 disclosure of such protected information.

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

○