

115TH CONGRESS
1ST SESSION

S. 2232

To amend the Public Utility Regulatory Policies Act of 1978 to provide for the integration of distributed energy resources, to modernize electricity grid infrastructure, to provide for the consideration of non-wires alternatives, and for other purposes.

IN THE SENATE OF THE UNITED STATES

DECEMBER 14, 2017

Mr. KING introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To amend the Public Utility Regulatory Policies Act of 1978 to provide for the integration of distributed energy resources, to modernize electricity grid infrastructure, to provide for the consideration of non-wires alternatives, 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 “Next Generation Grid Resources and Infrastructure De-
6 velopment Act” or the “Next Generation GRID Act”.

1 (b) TABLE OF CONTENTS.—The table of contents for
 2 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. General right of interconnection.
- Sec. 3. Electricity distribution resource planning.
- Sec. 4. Non-wires alternatives.
- Sec. 5. Distribution system operator pilot program.
- Sec. 6. Consideration of performance-based incentive rates.

3 **SEC. 2. GENERAL RIGHT OF INTERCONNECTION.**

4 The Public Utility Regulatory Policies Act of 1978
 5 is amended by inserting after section 4 (16 U.S.C. 2603)
 6 the following:

7 **“SEC. 5. GENERAL RIGHT OF INTERCONNECTION.**

8 “(a) DEFINITION OF DISTRIBUTED ENERGY RE-
 9 SOURCE.—In this section, the term ‘distributed energy re-
 10 source’ means a resource, technology, or combination of
 11 resources and technologies interconnected to the electricity
 12 distribution system that generates, manages, or reduces
 13 energy use.

14 “(b) RIGHT OF INTERCONNECTION.—Distributed en-
 15 ergy resources shall have a general right of interconnec-
 16 tion under this Act.

17 “(c) ANALYSIS OF INTERCONNECTION REQUESTS.—
 18 The methods used to calculate the impacts of proposed
 19 interconnections under this Act shall be transparent, re-
 20 peatable, consistent, clearly established, and agreed to by
 21 the appropriate State regulatory authority.

1 “(d) RATES AND FEES.—As the State or appropriate
2 State regulatory authority determines to be appropriate,
3 each electric utility shall adopt standards, conditions, and
4 requirements for rates and fees for the interconnection of
5 distributed energy resources under this Act, that—

6 “(1) reflect the 2-way costs and benefits for the
7 distributed energy resource and the electricity grid;

8 “(2) provide fair credit for energy exported to
9 the electricity grid;

10 “(3) are transparently derived and consistently
11 applied; and

12 “(4) are not punitive.

13 “(e) TIMEFRAMES.—

14 “(1) IN GENERAL.—Timeframes for the inter-
15 connection of distributed energy resources under this
16 Act shall be well-defined, expeditious, and not un-
17 duly protracted, as determined by the appropriate
18 State regulatory authority.

19 “(2) DELAYS OR DENIAL.—An interconnection
20 of distributed energy resources under this Act shall
21 not be delayed or denied unless the electric utility
22 demonstrates that—

23 “(A) the interconnection is unsafe or im-
24 practicable; and

1 “(B) any safety or impracticability issue
 2 demonstrated under subparagraph (A) cannot
 3 be mitigated.”.

4 **SEC. 3. ELECTRICITY DISTRIBUTION RESOURCE PLANNING.**

5 (a) DEVELOPMENT OF ELECTRICITY DISTRIBUTION
 6 RESOURCE PLANS.—Section 111(d) of the Public Utility
 7 Regulatory Policies Act of 1978 (16 U.S.C. 2621(d)) is
 8 amended by adding at the end the following:

9 “(20) ELECTRICITY DISTRIBUTION RESOURCE
 10 PLANNING.—

11 “(A) DEFINITIONS.—In this paragraph:

12 “(i) DISTRIBUTED ENERGY RE-
 13 SOURCE.—The term ‘distributed energy re-
 14 source’ has the meaning given the term in
 15 section 5(a).

16 “(ii) MICROGRID.—The term
 17 ‘microgrid’ means a group of inter-
 18 connected loads and distributed energy re-
 19 sources within clearly defined electrical
 20 boundaries that—

21 “(I) acts as a single controllable
 22 entity with respect to the electricity
 23 grid; and

1 “(II) can connect and disconnect
2 from the electricity grid to operate in
3 grid-connected mode and island mode.

4 “(B) REQUIREMENT.—Each electric utility
5 shall develop an electricity distribution resource
6 plan on a regular basis, as determined by the
7 appropriate State regulatory authority.

8 “(C) COMPONENTS OF ELECTRICITY DIS-
9 TRIBUTION RESOURCE PLAN.—An electricity
10 distribution resource plan developed under sub-
11 paragraph (B) shall identify—

12 “(i) the future electricity demand and
13 distribution system requirements of the
14 electric utility;

15 “(ii) projections for the deployment of
16 distributed energy resources within the
17 utility service territory during the period
18 covered by the plan by size, type, and loca-
19 tion;

20 “(iii) any locational benefits and costs
21 of distributed energy resources to the dis-
22 tribution system of the electric utility and
23 ratepayers, including—

24 “(I) benefits to grid resiliency
25 and reliability;

1 “(II) avoided or incurred invest-
2 ments in distribution or transmission
3 infrastructure;

4 “(III) avoided or incurred invest-
5 ments in generation capacity;

6 “(IV) any environmental benefits;
7 and

8 “(V) any other costs or benefits
9 to the electricity grid or to ratepayers;

10 “(iv) any temporal benefits or costs of
11 distributed energy resources to the dis-
12 tribution system of the electric utility, in-
13 cluding—

14 “(I) any changes in peak de-
15 mand; and

16 “(II) any changes in the distribu-
17 tion load curve;

18 “(v) any investments needed to im-
19 prove the integration, management, or de-
20 ployment of distributed energy resources in
21 the distribution system of the electric util-
22 ity;

23 “(vi) any barriers to the integration of
24 distributed energy resources in the dis-
25 tribution system of the electric utility, in-

1 cluding limitations to system capacity that
2 would require upgrades to integrate dis-
3 tributed energy resources;

4 “(vii) any locations on the distribution
5 system of the electric utility suitable for
6 microgrid development based on geo-
7 graphic, resiliency, reliability, or cost fac-
8 tors; and

9 “(viii) any physical and cybersecurity
10 needs and vulnerabilities of the distribution
11 system of the electric utility.

12 “(D) DESIGNATION OF PARTICIPANTS.—

13 For each electric utility for which the State or
14 State regulatory authority has ratemaking au-
15 thority, the State or State regulatory authority,
16 as applicable, may designate participants to as-
17 sist in developing an electricity distribution re-
18 source plan under subparagraph (B), including,
19 as the State or State regulatory authority de-
20 termines to be appropriate—

21 “(i) any nonprofit or for-profit entity
22 with experience in planning, designing, or
23 operating distributed energy resources or
24 systems;

1 “(ii) a regional regulatory authority or
2 other regional entity;

3 “(iii) an institution of higher edu-
4 cation;

5 “(iv) a National Laboratory (as de-
6 fined in section 2 of the Energy Policy Act
7 of 2005 (42 U.S.C. 15801));

8 “(v) a ratepayer or advocate of rate-
9 payers; and

10 “(vi) any other appropriate entity.

11 “(E) ACCESS TO DATA.—In developing an
12 electricity distribution resource plan under sub-
13 paragraph (B), the electric utility shall provide
14 to any participants designated under subpara-
15 graph (D) access to relevant data regarding the
16 operation and performance of the electricity
17 grid, subject to any qualifications and confiden-
18 tiality requirements that the State regulatory
19 authority determines to be appropriate.”.

20 (b) TECHNICAL AND FINANCIAL ASSISTANCE FOR
21 THE DEVELOPMENT OF ELECTRICITY DISTRIBUTION RE-
22 SOURCE PLANS.—

23 (1) DEFINITIONS.—In this subsection:

24 (A) ELIGIBLE ENTITY.—The term “eligible
25 entity” means a State, State regulatory author-

1 ity, electric utility, or any other entity des-
2 ignated by a State or State regulatory authority
3 as a participant in the development of a plan
4 under paragraph (20)(D) of section 111(d) of
5 the Public Utility Regulatory Policies Act of
6 1978 (16 U.S.C. 2621(d)) (as added by sub-
7 section (a)).

8 (B) PLAN.—The term “plan” means an
9 electricity distribution resource plan developed
10 under paragraph (20)(B) of section 111(d) of
11 the Public Utility Regulatory Policies Act of
12 1978 (16 U.S.C. 2621(d)) (as added by sub-
13 section (a)).

14 (C) SECRETARY.—The term “Secretary”
15 means the Secretary of Energy.

16 (D) STATE REGULATORY AUTHORITY.—
17 The term “State regulatory authority” has the
18 meaning given the term in section 3 of the Pub-
19 lic Utility Regulatory Policies Act of 1978 (16
20 U.S.C. 2602).

21 (2) TECHNICAL AND FINANCIAL ASSISTANCE.—
22 At the request of a State or State regulatory author-
23 ity, the Secretary shall provide—

24 (A) technical assistance to eligible entities
25 to assist in the development of a plan; and

1 (B) grants to eligible entities to contract
2 for qualified technical assistance to assist in the
3 development of a plan.

4 (3) AUTHORIZATION OF APPROPRIATIONS.—

5 There is authorized to be appropriated to the Sec-
6 retary to carry out this subsection \$200,000,000, to
7 remain available until expended.

8 **SEC. 4. NON-WIRES ALTERNATIVES.**

9 (a) DEFINITION OF NON-WIRES ALTERNATIVE.—

10 Section 3 of the Federal Power Act (16 U.S.C. 796) is
11 amended by adding at the end the following:

12 “(30) NON-WIRES ALTERNATIVE.—The term
13 ‘non-wires alternative’ means an electricity grid in-
14 vestment or project that uses one or more nonradi-
15 tional solutions, including distributed generation, en-
16 ergy storage, energy efficiency, demand response,
17 microgrids, or grid software and controls, to defer or
18 replace the need for specific equipment upgrades or
19 new infrastructure, such as transmission or distribu-
20 tion lines or transformers, at a substation or circuit
21 level.”.

22 (b) CONSIDERATION OF NON-WIRES ALTERNATIVES

23 IN REGIONAL TRANSMISSION PLANS.—Section 202 of the
24 Federal Power Act (16 U.S.C. 824a) is amended by add-
25 ing at the end the following:

1 “(h) ISSUANCE OF RULE RELATING TO CONSIDER-
2 ATION OF NON-WIRES ALTERNATIVES IN REGIONAL
3 TRANSMISSION PLANS.—As soon as practicable after the
4 date of enactment of this subsection, the Commission shall
5 issue a final rule that—

6 “(1) requires public utility transmission pro-
7 viders—

8 “(A) to solicit non-wires alternatives in the
9 development of regional transmission plans; and

10 “(B) to identify opportunities for non-wires
11 alternatives;

12 “(2) requires Transmission Organizations to de-
13 velop procedures to control or manage non-wires al-
14 ternatives providing transmission services; and

15 “(3) authorizes Transmission Organizations to
16 allocate and recover costs of non-wires alternatives
17 providing transmission services that are dem-
18 onstrated to be a cost-effective alternative to an up-
19 grade to, or the construction of new, transmission
20 infrastructure in the same manner as the upgrade
21 to, or construction of new, transmission infrastruc-
22 ture would have been allocated and recovered.”.

23 (c) CONSIDERATION OF NON-WIRES ALTERNATIVES
24 BY STATE REGULATORY AUTHORITIES.—Section 111(d)
25 of the Public Utility Regulatory Policies Act of 1978 (16

1 U.S.C. 2621(d)) (as amended by section 3(a)) is amended
2 by adding at the end the following:

3 “(21) NON-WIRES ALTERNATIVES.—

4 “(A) IN GENERAL.—To the extent a State
5 regulatory authority has the authority to allow
6 electric utilities to recover costs associated with
7 electricity transmission and distribution
8 projects, each State regulatory authority shall
9 consider non-wires alternatives (as defined in
10 section 3 of the Federal Power Act (16 U.S.C.
11 796)) in instances in which an entity proposes
12 transmission or distribution projects seeking
13 cost-of-service rate recovery.

14 “(B) COST RECOVERY.—To reduce the
15 costs to ratepayers associated with potential up-
16 grades to transmission or distribution infra-
17 structure, the cost of a non-wires alternative
18 considered under subparagraph (A) shall be re-
19 covered from ratepayers in the same manner as
20 an upgrade to transmission or distribution in-
21 frastructure would have been.”.

22 **SEC. 5. DISTRIBUTION SYSTEM OPERATOR PILOT PRO-**
23 **GRAM.**

24 (a) DEFINITIONS.—In this section:

1 (1) DISTRIBUTION SYSTEM OPERATOR.—The
2 term “distribution system operator” means an enti-
3 ty, independent of the normal operations of an elec-
4 tric utility, that—

5 (A) plans for, integrates, and manages dis-
6 tributed energy resources within the service ter-
7 ritory of an electric utility;

8 (B) implements reliability standards for
9 distributed energy resources within the service
10 territory of an electric utility; and

11 (C) aggregates the economic attributes of
12 distributed energy resources within the service
13 territory of an electric utility for sale into a
14 wholesale energy or other market.

15 (2) ELECTRIC UTILITY.—The term “electric
16 utility” has the meaning given the term in section
17 3 of the Public Utility Regulatory Policies Act of
18 1978 (16 U.S.C. 2602).

19 (3) NATIONAL LABORATORY.—The term “Na-
20 tional Laboratory” has the meaning given the term
21 in section 2 of the Energy Policy Act of 2005 (42
22 U.S.C. 15801).

23 (4) PILOT PROGRAM.—The term “pilot pro-
24 gram” means the pilot program established under
25 subsection (b).

1 (5) REGIONAL TRANSMISSION ORGANIZATION.—

2 The term “Regional Transmission Organization”
3 has the meaning given the term in section 3 of the
4 Federal Power Act (16 U.S.C. 796).

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

7 (b) PILOT PROGRAM.—Not later than 1 year after
8 the date of enactment of this Act, the Secretary shall es-
9 tablish a pilot program within the National Labora-
10 tories—

11 (1) to research, develop, and test technology
12 platforms and operational procedures for a distribu-
13 tion system operator;

14 (2) to evaluate best practices in designating the
15 roles and responsibilities of a distribution system op-
16 erator relative to other entities, including the rel-
17 evant electric utility and Regional Transmission Or-
18 ganization; and

19 (3) to simulate the functions of a distribution
20 system operator in a range of grid conditions.

21 (c) WORKING GROUP.—

22 (1) IN GENERAL.—The Secretary shall establish
23 a working group to participate in the design and op-
24 eration of the pilot program.

1 (2) MEMBERSHIP.—The working group estab-
2 lished under paragraph (1) shall be composed of
3 members, to be appointed by the Secretary, at least
4 one of which shall represent each of the following:

5 (A) The Department of Energy.

6 (B) The National Laboratories.

7 (C) An electric utility.

8 (D) The North American Electric Reli-
9 ability Corporation.

10 (E) A Regional Transmission Organiza-
11 tion.

12 (F) A State or regional energy agency.

13 (G) A national research body or institution
14 of higher education.

15 (d) REPORT TO CONGRESS.—Not later than 2 years
16 after the date on which funds are first made available to
17 the pilot program, the Secretary shall submit to Congress
18 a report that—

19 (1) describes the results of the pilot program;

20 and

21 (2) provides an analysis of the feasibility of im-
22 plementing a distribution system operator.

23 (e) AUTHORIZATION OF APPROPRIATIONS.—There is
24 authorized to be appropriated to carry out the pilot pro-
25 gram \$20,000,000, to remain available until expended.

1 **SEC. 6. CONSIDERATION OF PERFORMANCE-BASED INCEN-**
2 **TIVE RATES.**

3 (a) IN GENERAL.—Section 111(d) of the Public Util-
4 ity Regulatory Policies Act of 1978 (16 U.S.C. 2621(d))
5 (as amended by section 4(c)) is amended by adding at the
6 end the following:

7 “(22) PERFORMANCE-BASED INCENTIVE MECH-
8 ANISMS.—

9 “(A) IN GENERAL.—Each State regulatory
10 authority, with respect to each electric utility
11 for which the State regulatory authority has
12 ratemaking authority, shall consider the use of
13 performance-based incentive mechanisms to
14 achieve public interest goals established by the
15 State or State regulatory authority in accord-
16 ance with subparagraphs (B) and (C).

17 “(B) CONSIDERATIONS FOR ESTABLISH-
18 MENT OF PUBLIC INTEREST GOALS.—In estab-
19 lishing public interest goals under subparagraph
20 (A), the State or State regulatory authority, as
21 applicable, shall consider—

22 “(i) overall system efficiency, includ-
23 ing reductions in peak demand;

24 “(ii) the integration and adoption of
25 distributed energy resources;

1 “(iii) process improvements, such as
2 predictable and timely interconnection
3 processes;

4 “(iv) the resiliency and reliability of
5 the electricity grid;

6 “(v) customer engagement and satis-
7 faction;

8 “(vi) environmental benefits, including
9 reductions in particulate and greenhouse
10 gas emissions; and

11 “(vii) any other factor determined to
12 be appropriate by the State or State regu-
13 latory authority.

14 “(C) METRICS.—In establishing public in-
15 terest goals under subparagraph (A), the State
16 or State regulatory authority, as applicable,
17 shall specify quantifiable metrics with respect to
18 the public interest goals that can be measured
19 and verified.”.

20 (b) COMPLIANCE.—

21 (1) OBLIGATIONS TO CONSIDER AND DETER-
22 MINE; PRIOR STATE ACTIONS.—Section 112 of the
23 Public Utility Regulatory Policies Act of 1978 (16
24 U.S.C. 2622) is amended—

1 (A) in subsection (b), by adding at the end
2 the following:

3 “(7)(A) Not later than 1 year after the date of
4 enactment of this paragraph, each State regulatory
5 authority (with respect to each electric utility for
6 which it has ratemaking authority) shall, with re-
7 spect to the standards established by paragraphs
8 (20) through (22) of section 111(d)—

9 “(i) commence the consideration referred
10 to in section 111; or

11 “(ii) set a hearing date for the consider-
12 ation.

13 “(B) Not later than 2 years after the date of
14 enactment of this paragraph, each State regulatory
15 authority (with respect to each electric utility for
16 which it has ratemaking authority) shall—

17 “(i) complete the consideration required
18 under subparagraph (A); and

19 “(ii) make the determination referred to in
20 section 111 with respect to the standards estab-
21 lished by paragraphs (20) through (22) of sec-
22 tion 111(d).”;

23 (B) in subsection (c), by adding at the end
24 the following: “In the case of the standards es-
25 tablished by paragraphs (20) through (22) of

1 section 111(d), the reference contained in this
2 subsection to the date of enactment of this Act
3 shall be deemed to be a reference to the date
4 of enactment of those paragraphs.”;

5 (C) in subsection (d), in the matter pre-
6 ceding paragraph (1), by striking “(19)” and
7 inserting “(22)”;

8 (D) by adding at the end the following:

9 “(g) PRIOR STATE ACTIONS.—Subsections (b) and
10 (c) shall not apply to the standard established by para-
11 graphs (20) through (22) of section 111(d) in the case
12 of any electric utility in a State if, before the date of enact-
13 ment of this subsection—

14 “(1) the State has implemented for the electric
15 utility the standard (or a comparable standard);

16 “(2) the State regulatory authority for the
17 State or the relevant nonregulated electric utility has
18 conducted a proceeding to consider implementation
19 of the standard (or a comparable standard) for the
20 electric utility; or

21 “(3) the State legislature has voted on the im-
22 plementation of the standard (or a comparable
23 standard) for the electric utility.”.

24 (2) PRIOR AND PENDING PROCEEDINGS.—Sec-
25 tion 124 of the Public Utility Regulatory Policy Act

1 of 1978 (16 U.S.C. 2634) is amended by adding at
2 the end the following: “In the case of the standards
3 established by paragraphs (20) through (22) of sec-
4 tion 111(d), the reference contained in this sub-
5 section to the date of enactment of this Act shall be
6 deemed to be a reference to the date of enactment
7 of those paragraphs.”.

○