

114TH CONGRESS
1ST SESSION

S. 259

To modify the efficiency standards for grid-enabled water heaters.

IN THE SENATE OF THE UNITED STATES

JANUARY 27, 2015

Mr. HOEVEN (for himself and Ms. KLOBUCHAR) introduced the following bill;
which was read twice and referred to the Committee on Energy and Nat-
ural Resources

A BILL

To modify the efficiency standards for grid-enabled water
heaters.

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. GRID-ENABLED WATER HEATERS.**

4 Part B of title III of the Energy Policy and Conserva-
5 tion Act (42 U.S.C. 6291 et seq.) is amended—

6 (1) in section 325(e) (42 U.S.C. 6295(e)), by
7 adding at the end the following:

8 “(6) **ADDITIONAL STANDARDS FOR GRID-EN-**
9 **ABLED WATER HEATERS.—**

10 “(A) **DEFINITIONS.—**In this paragraph:

1 “(i) ACTIVATION LOCK.—The term
2 ‘activation lock’ means a control mecha-
3 nism (either a physical device directly on
4 the water heater or a control system inte-
5 grated into the water heater) that is locked
6 by default and contains a physical, soft-
7 ware, or digital communication that must
8 be activated with an activation key to en-
9 able the product to operate at its designed
10 specifications and capabilities and without
11 which activation the product will provide
12 not greater than 50 percent of the rated
13 first hour delivery of hot water certified by
14 the manufacturer.

15 “(ii) GRID-ENABLED WATER HEAT-
16 ER.—The term ‘grid-enabled water heater’
17 means an electric resistance water heater
18 that—

19 “(I) has a rated storage tank vol-
20 ume of more than 75 gallons;

21 “(II) is manufactured on or after
22 April 16, 2015;

23 “(III) has—

24 “(aa) an energy factor of
25 not less than 1.061 minus the

1 product obtained by multi-
2 plying—
3 “(AA) the rated storage
4 volume of the tank, ex-
5 pressed in gallons; and
6 “(BB) 0.00168; or
7 “(bb) an equivalent alter-
8 native standard prescribed by the
9 Secretary and developed pursu-
10 ant to paragraph (5)(E);
11 “(IV) is equipped by the manu-
12 facturer with an activation lock; and
13 “(V) bears a permanent label ap-
14 plied by the manufacturer that—
15 “(aa) is made of material
16 not adversely affected by water;
17 “(bb) is attached by means
18 of non-water-soluble adhesive;
19 and
20 “(cc) advises purchasers and
21 end-users of the intended and ap-
22 propriate use of the product with
23 the following notice printed in
24 16.5 point Arial Narrow Bold
25 font:

1 “‘IMPORTANT INFORMATION: This water heater is
2 intended only for use as part of an electric thermal storage
3 or demand response program. It will not provide adequate
4 hot water unless enrolled in such a program and activated
5 by your utility company or another program operator.
6 Confirm the availability of a program in your local area
7 before purchasing or installing this product.’.

8 “(B) REQUIREMENT.—The manufacturer
9 or private labeler shall provide the activation
10 key for a grid-enabled water heater only to a
11 utility or other company that operates an elec-
12 tric thermal storage or demand response pro-
13 gram that uses such a grid-enabled water heat-
14 er.

15 “(C) REPORTS.—

16 “(i) MANUFACTURERS.—The Sec-
17 retary shall require each manufacturer of
18 grid-enabled water heaters to report to the
19 Secretary annually the quantity of grid-en-
20 abled water heaters that the manufacturer
21 ships each year.

22 “(ii) OPERATORS.—The Secretary
23 shall require utilities and other demand re-
24 sponse and thermal storage program oper-
25 ators to report annually the quantity of

1 grid-enabled water heaters activated for
2 their programs using forms of the Energy
3 Information Agency or using such other
4 mechanism that the Secretary determines
5 appropriate after an opportunity for notice
6 and comment.

7 “(iii) CONFIDENTIALITY REQUIRE-
8 MENTS.—The Secretary shall treat ship-
9 ment data reported by manufacturers as
10 confidential business information.

11 “(D) PUBLICATION OF INFORMATION.—

12 “(i) IN GENERAL.—In 2017 and
13 2019, the Secretary shall publish an anal-
14 ysis of the data collected under subpara-
15 graph (C) to assess the extent to which
16 shipped products are put into use in de-
17 mand response and thermal storage pro-
18 grams.

19 “(ii) PREVENTION OF PRODUCT DI-
20 VERSION.—If the Secretary determines
21 that sales of grid-enabled water heaters ex-
22 ceed by 15 percent or greater the quantity
23 of such products activated for use in de-
24 mand response and thermal storage pro-
25 grams annually, the Secretary shall, after

1 opportunity for notice and comment, estab-
2 lish procedures to prevent product diver-
3 sion for non-program purposes.

4 “(E) COMPLIANCE.—

5 “(i) IN GENERAL.—Subparagraphs
6 (A) through (D) shall remain in effect
7 until the Secretary determines under this
8 section that—

9 “(I) grid-enabled water heaters
10 do not require a separate efficiency
11 requirement; or

12 “(II) sales of grid-enabled water
13 heaters exceed by 15 percent or great-
14 er the quantity of such products acti-
15 vated for use in demand response and
16 thermal storage programs annually
17 and procedures to prevent product di-
18 version for non-program purposes
19 would not be adequate to prevent such
20 product diversion.

21 “(ii) EFFECTIVE DATE.—If the Sec-
22 retary exercises the authority described in
23 clause (i) or amends the efficiency require-
24 ment for grid-enabled water heaters, that

1 action will take effect on the date de-
2 scribed in subsection (m)(4)(A)(ii).

3 “(iii) CONSIDERATION.—In carrying
4 out this section with respect to electric
5 water heaters, the Secretary shall consider
6 the impact on thermal storage and demand
7 response programs, including any impact
8 on energy savings, electric bills, peak load
9 reduction, electric reliability, integration of
10 renewable resources, and the environment.

11 “(iv) REQUIREMENTS.—In carrying
12 out this paragraph, the Secretary shall re-
13 quire that grid-enabled water heaters be
14 equipped with communication capability to
15 enable the grid-enabled water heaters to
16 participate in ancillary services programs if
17 the Secretary determines that the tech-
18 nology is available, practical, and cost-ef-
19 fective.”; and

20 (2) in section 332(a) (42 U.S.C. 6302(a))—

21 (A) in paragraph (5), by striking “or” at
22 the end;

23 (B) in the first paragraph (6), by striking
24 the period at the end and inserting a semicolon;

1 (C) by redesignating the second paragraph
2 (6) as paragraph (7);

3 (D) in subparagraph (B) of paragraph (7)
4 (as so redesignated), by striking the period at
5 the end and inserting “; or”; and

6 (E) by adding at the end the following:

7 “(8) for any person to—

8 “(A) activate an activation lock for a grid-
9 enabled water heater with knowledge that such
10 water heater is not used as part of an electric
11 thermal storage or demand response program;

12 “(B) distribute an activation key for a
13 grid-enabled water heater with knowledge that
14 such activation key will be used to activate a
15 grid-enabled water heater that is not used as
16 part of an electric thermal storage or demand
17 response program;

18 “(C) otherwise enable a grid-enabled water
19 heater to operate at its designed specification
20 and capabilities with knowledge that such water
21 heater is not used as part of an electric thermal
22 storage or demand response program; or

23 “(D) knowingly remove or render illegible
24 the label of a grid-enabled water heater de-
25 scribed in section 325(e)(6)(A)(ii)(V).”;

1 (3) in section 333(a) (42 U.S.C. 6303(a))—

2 (A) in the second sentence, by striking
3 “section 332(a)(5)” and inserting “paragraph
4 (5), (6), (7), or (8) of section 332(a)”; and

5 (B) in the fourth sentence, by striking
6 “paragraph (1), (2), or (5) of section 332(a)”
7 and inserting “paragraph (1), (2), (5), (6), (7),
8 or (8) of section 332(a)”; and

9 (4) in section 334 (42 U.S.C. 6304)—

10 (A) in the second sentence, by striking
11 “section 332(a)(5)” and inserting “paragraph
12 (5), (6), (7), or (8) of section 332(a)”; and

13 (B) in the third sentence, by striking “sec-
14 tion 332(a)(6)” and inserting “section
15 332(a)(7)”.

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