

114TH CONGRESS
1ST SESSION

H. R. 2244

To establish a Strategic Transformer Reserve program, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 8, 2015

Mrs. ELLMERS of North Carolina (for herself and Mr. McNERNEY) introduced the following bill; which was referred to the Committee on Energy and Commerce

A BILL

To establish a Strategic Transformer Reserve program, 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. STRATEGIC TRANSFORMER RESERVE PRO-**
4 **GRAM.**

5 (a) FINDING.—Congress finds that the storage of
6 strategically located spare large power transformers will
7 diminish the vulnerability of the United States to multiple
8 risks facing electric grid reliability, including physical at-
9 tack, cyber attack, electromagnetic pulse, geomagnetic dis-
10 turbances, severe weather, and seismic events.

1 (b) DEFINITIONS.—In this section:

2 (1) BULK-POWER SYSTEM.—The term “bulk-
3 power system” has the meaning given such term in
4 section 215(a) of the Federal Power Act (16 U.S.C.
5 824o(a)).

6 (2) CRITICALLY DAMAGED LARGE POWER
7 TRANSFORMER.—The term “critically damaged large
8 power transformer” means a large power trans-
9 former that—

10 (A) has sustained extensive damage such
11 that—

12 (i) repair or refurbishment is not eco-
13 nomically viable; or

14 (ii) the extensive time to repair or re-
15 furbish the large power transformer would
16 create an extended period of instability in
17 the bulk-power system; and

18 (B) prior to sustaining such damage was
19 part of the bulk-power system.

20 (3) LARGE POWER TRANSFORMER.—The term
21 “large power transformer” means a power trans-
22 former, including related critical equipment, that is,
23 or is intended to be, a part of the bulk-power sys-
24 tem, with a maximum nameplate rating of 100
25 megavolt-amperes or higher.

1 (4) SECRETARY.—The term “Secretary” means
2 the Secretary of Energy.

3 (5) SPARE LARGE POWER TRANSFORMER.—The
4 term “spare large power transformer” means a large
5 power transformer that is stored within the Stra-
6 tegic Transformer Reserve to be available to tempo-
7 rarily replace a critically damaged large power trans-
8 former.

9 (c) STRATEGIC TRANSFORMER RESERVE PLAN.—

10 (1) PLAN.—Not later than one year after the
11 date of enactment of this Act, the Secretary, acting
12 through the Office of Electricity Delivery and En-
13 ergy Reliability, shall prepare and submit to Con-
14 gress for approval a plan to establish a Strategic
15 Transformer Reserve for the storage, in strategically
16 located facilities, of spare large power transformers
17 in sufficient numbers to temporarily replace criti-
18 cally damaged large power transformers.

19 (2) INCLUSIONS.—The Strategic Transformer
20 Reserve plan shall include a description of—

21 (A) the appropriate number of spare large
22 power transformers and total capacity in
23 megawatts necessary in the Strategic Trans-
24 former Reserve to provide or restore sufficient
25 resiliency to the bulk-power system to mitigate

significant impacts to the electric grid resulting
from—

- (i) physical attack;
- (ii) cyber attack;
- (iii) electromagnetic pulse attack;
- (iv) geomagnetic disturbances;
- (v) severe weather; or
- (vi) seismic events;

(B) the potential locations for, and feasibility and appropriate number of, strategic storage locations, including consideration of—

- (i) the physical security of such locations;
- (ii) the protection of the confidentiality of such locations; and
- (iii) the proximity of such locations to sites of potentially critically damaged large power transformers, so as to enable efficient delivery of spare large power transformers to such sites;

(C) the degree of flexibility of spare large power transformers in the Strategic Transformer Reserve to conform to different substation configurations, including consideration of transformer—

1 (i) power and voltage rating for each
2 winding;

3 (ii) overload requirements;

4 (iii) impedance between windings;

5 (iv) configuration of windings; and

6 (v) tap requirements;

7 (D) an estimate of the direct cost of the
8 Strategic Transformer Reserve, as proposed, in-
9 cluding—

10 (i) the cost of storage facilities for the
11 spare large power transformers;

12 (ii) the cost of the spare large power
13 transformers; and

14 (iii) management, maintenance, and
15 operation costs;

16 (E) the funding options available to estab-
17 lish, stock, manage, and maintain the Strategic
18 Transformer Reserve, including consideration of
19 public-private cost-sharing options;

20 (F) the ease and speed of transportation,
21 installation, and energization of spare large
22 power transformers, including consideration of
23 factors such as—

24 (i) transformer transportation weight;

25 (ii) transformer size;

1 (iii) topology of critical substations;

2 (iv) availability of appropriate trans-
3 former mounting pads;

4 (v) flexibility of the spare large power
5 transformers as described in subparagraph
6 (C); and

7 (vi) ability to rapidly transition a
8 spare large power transformer from stor-
9 age to energization;

10 (G) eligibility criteria for withdrawal of
11 spare large power transformers from the Stra-
12 tegic Transformer Reserve to replace critically
13 damaged large power transformers, including
14 consideration of related existing industry pro-
15 grams;

16 (H) the process by which owners of criti-
17 cally damaged large power transformers may
18 apply for a withdrawal from the Strategic
19 Transformer Reserve;

20 (I) the process by which spare large power
21 transformers withdrawn from the Strategic
22 Transformer Reserve are returned to the Stra-
23 tegic Transformer Reserve;

24 (J) any cost-share or rental fees deter-
25 mined appropriate for restocking returned spare

1 large power transformers to the Strategic
2 Transformer Reserve to be paid by owners of
3 critically damaged large power transformers
4 that have withdrawn such spare large power
5 transformers; and

6 (K) other considerations for designing,
7 constructing, stocking, and managing the Stra-
8 tegic Transformer Reserve.

9 (d) CONGRESSIONAL APPROVAL OF STRATEGIC
10 TRANSFORMER RESERVE PLAN.—The Secretary may not
11 establish a Strategic Transformer Reserve until Congress
12 has approved the plan submitted pursuant to subsection
13 (c).

14 (e) RESTRICTION.—No funds may be used by the
15 Secretary to establish a Strategic Transformer Reserve
16 without prior Congressional approval of the plan sub-
17 mitted pursuant to subsection (c).

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