

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

1 significant impacts to the electric grid resulting  
2 from—

- 3 (i) physical attack;
- 4 (ii) cyber attack;
- 5 (iii) electromagnetic pulse attack;
- 6 (iv) geomagnetic disturbances;
- 7 (v) severe weather; or
- 8 (vi) seismic events;

9 (B) the potential locations for, and feasi-  
10 bility and appropriate number of, strategic stor-  
11 age locations, including consideration of—

- 12 (i) the physical security of such loca-  
13 tions;
- 14 (ii) the protection of the confiden-  
15 tiality of such locations; and
- 16 (iii) the proximity of such locations to  
17 sites of potentially critically damaged large  
18 power transformers, so as to enable effi-  
19 cient delivery of spare large power trans-  
20 formers to such sites;

21 (C) the degree of flexibility of spare large  
22 power transformers in the Strategic Trans-  
23 former Reserve to conform to different sub-  
24 station configurations, including consideration  
25 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).

○