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(Original Signature of Member)

114TH CONGRESS  
1ST SESSION

# H. R.

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

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## IN THE HOUSE OF REPRESENTATIVES

Mrs. ELLMERS introduced the following bill; which was referred to the Committee on \_\_\_\_\_

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# 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-

1 tack, cyber attack, electromagnetic pulse, geomagnetic dis-  
2 turbances, severe weather, and seismic events.

3 (b) DEFINITIONS.—In this section:

4 (1) BULK-POWER SYSTEM.—The term “bulk-  
5 power system” has the meaning given such term in  
6 section 215(a) of the Federal Power Act (16 U.S.C.  
7 824o(a)).

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

12 (A) has sustained extensive damage such  
13 that—

14 (i) repair or refurbishment is not eco-  
15 nomically viable; or

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

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

22 (3) LARGE POWER TRANSFORMER.—The term  
23 “large power transformer” means a power trans-  
24 former, including related critical equipment, that is,  
25 or is intended to be, a part of the bulk-power sys-

1       tem, with a maximum nameplate rating of 100  
2       megavolt-amperes or higher.

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

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

11      (c) STRATEGIC TRANSFORMER RESERVE PLAN.—

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

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

23           (A) the appropriate number of spare large  
24           power transformers and total capacity in  
25           megawatts necessary in the Strategic Trans-

1 former Reserve to provide or restore sufficient  
2 resiliency to the bulk-power system to mitigate  
3 significant impacts to the electric grid resulting  
4 from—

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

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

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

23 (C) the degree of flexibility of spare large  
24 power transformers in the Strategic Trans-  
25 former Reserve to conform to different sub-

1 station configurations, including consideration  
2 of transformer—

3 (i) power and voltage rating for each  
4 winding;

5 (ii) overload requirements;

6 (iii) impedance between windings;

7 (iv) configuration of windings; and

8 (v) tap requirements;

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

12 (i) the cost of storage facilities for the  
13 spare large power transformers;

14 (ii) the cost of the spare large power  
15 transformers; and

16 (iii) management, maintenance, and  
17 operation costs;

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

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

1 (i) transformer transportation weight;

2 (ii) transformer size;

3 (iii) topology of critical substations;

4 (iv) availability of appropriate trans-  
5 former mounting pads;

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

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

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

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

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

1           (J) any cost-share or rental fees deter-  
2           mined appropriate for restocking returned spare  
3           large power transformers to the Strategic  
4           Transformer Reserve to be paid by owners of  
5           critically damaged large power transformers  
6           that have withdrawn such spare large power  
7           transformers; and

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

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

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