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(Original Signature of Member)

119TH CONGRESS
2D SESSION

H. R.

To amend the Energy Act of 2020 to modify certain programs and projects with respect to energy storage technology, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Mr. PANETTA introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Energy Act of 2020 to modify certain programs and projects with respect to energy storage technology, 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.**

4 This Act may be cited as the “Better Energy Storage
5 and Safety Act”.

1 **SEC. 2. MODIFICATION OF CERTAIN PROGRAMS AND**
2 **PROJECTS WITH RESPECT TO ENERGY STOR-**
3 **AGE TECHNOLOGY.**

4 (a) CLARIFICATION OF DEFINITION OF ENERGY
5 STORAGE SYSTEM.—Subsection (a)(1) of section 3201 of
6 the Energy Act of 2020 (42 U.S.C. 17232) is amended
7 by inserting “(including any components or modules that
8 comprise such a system)” after “any system”.

9 (b) ENERGY STORAGE SYSTEM RESEARCH, DEVEL-
10 OPMENT, AND DEPLOYMENT PROGRAM.—

11 (1) EXPANDING OBJECTIVES.—Paragraph (2)
12 of section 3201(b) of the Energy Act of 2020 (42
13 U.S.C. 17232(b)) is amended—

14 (A) in subparagraph (A)—

15 (i) in the matter preceding clause (i),
16 by inserting “modules,” after “compo-
17 nents,”; and

18 (ii) in clause (i), by inserting “of resi-
19 dential and utility energy storage systems”
20 after “deployment”;

21 (B) in subparagraph (I), by striking “and”
22 after the semicolon; and

23 (C) by adding at the end the following new
24 subparagraphs:

25 “(K) models, tools, and diagnostic data
26 sets to improve the safe installation and long-

1 term operation of energy storage systems by
2 abating expected failure modes that could dam-
3 age such a system, including—

4 “(i) component, module, or system
5 failure; and

6 “(ii) thermal runaway and other fire
7 and explosion risks; and

8 “(L) early detection methods and preventa-
9 tive maintenance techniques relating to failure
10 modes of energy storage systems.”.

11 (2) MODIFYING TESTING AND VALIDATION.—

12 Paragraph (3) of section 3201(b) of the Energy Act
13 of 2020 (42 U.S.C. 17232(b)) is amended to read as
14 follows:

15 “(3) BENCHMARKING, TESTING, AND VALIDA-
16 TION.—

17 “(A) IN GENERAL.—In coordination with
18 one or more National Laboratories, the Direc-
19 tor of the National Institute of Standards and
20 Technology, and the Administrator of the
21 United States Fire Administration, the Sec-
22 retary shall support the development, standard-
23 ized testing, and validation of energy storage
24 systems specified in subparagraph (B), includ-
25 ing test-bed trials and field tests, by developing

1 testing and evaluation methodologies for the fol-
2 lowing:

3 “(i) Storage technologies, controls,
4 and power electronics for such systems
5 under a variety of operating and failure
6 conditions, including such conditions that
7 occur while such a system is being utilized.

8 “(ii) Standardized and grid perform-
9 ance testing for energy storage systems,
10 materials, and technologies at each stage
11 of development and at the operational sys-
12 tem level.

13 “(iii) Reliability, safety, degradation,
14 and durability testing under standard and
15 evolving duty cycles.

16 “(iv) Component, module, and inte-
17 grated system level safety and degradation
18 stress testing to failure.

19 “(v) Accelerated life testing protocols
20 to predict estimated lifetime metrics with
21 accuracy.

22 “(vi) Equipment, including automated
23 fire suppression systems, and techniques
24 for mitigating risks of such energy storage
25 systems.

1 “(B) ENERGY STORAGE SYSTEMS SPECI-
2 FIED.—The energy storage systems specified in
3 this subparagraph are energy storage systems
4 that satisfy the following requirements:

5 “(i) Are under the program.

6 “(ii) Are operational and connected to
7 the grid.

8 “(iii) Were installed before the most
9 recent codes and standards for such sys-
10 tems.

11 “(iv) Represent a variety of the fol-
12 lowing characteristics:

13 “(I) Chemistries.

14 “(II) Compositions.

15 “(III) Installation and manufac-
16 turing techniques.

17 “(IV) Any other characteristic
18 the Secretary determines appro-
19 priate.”.

20 (3) MODIFYING PERIODIC EVALUATIONS.—

21 Paragraph (4) of section 3201(b) of the Energy Act
22 of 2020 (42 U.S.C. 17232(b)) is amended—

23 (A) by inserting “the testing and evalua-
24 tion of” after “advance”; and

1 (B) by striking “costs and increasing the
2 duration” and inserting “costs, increasing the
3 lifetime, and improving the safety”.

4 (4) MODIFYING STRATEGIC PLAN.—Paragraph
5 (5)(B) of section 3201(b) of the Energy Act of 2020
6 (42 U.S.C. 17232(b)) is amended—

7 (A) in clause (iii)(II)(bb), by striking “and
8 the mission of the Department, as determined
9 by the Secretary”;

10 (B) in clause (iv)(II), by striking “and”
11 after the semicolon;

12 (C) in clause (v), by striking the period at
13 the end and inserting “; and”; and

14 (D) by adding at the end the following new
15 clause:

16 “(vi) include a summary of the status
17 of any innovative, emerging, or alternative
18 technologies that could improve the per-
19 formance, durability, or safety of grid-scale
20 energy storage systems and any potential
21 commercial barriers to such innovative,
22 emerging, or alternative technologies.”.

23 (5) LEVERAGING OF RESOURCES.—Paragraph
24 (6) of section 3201(b) of the Energy Act of 2020
25 (42 U.S.C. 17232(b)) is amended—

1 (A) in subparagraph (C)—

2 (i) in clause (ii), by adding “and” at
3 the end; and

4 (ii) in clause (iii), by striking “and”
5 after the semicolon;

6 (B) in subparagraph (D), by striking the
7 period at the end and inserting a semicolon;
8 and

9 (C) by adding at the end the following new
10 subparagraphs:

11 “(E) the United States Fire Administra-
12 tion; and

13 “(F) the National Institute of Standards
14 and Technology.”.

15 (c) INCREASING NUMBER OF ENERGY STORAGE
16 DEMONSTRATION PROJECTS.—Paragraph (1) of section
17 3201(c) of the Energy Act of 2020 (42 U.S.C. 17232(c))
18 is amended—

19 (1) in the matter preceding subparagraph (A)—

20 (A) by striking “September 30, 2023” and
21 inserting “September 30, 2030”; and

22 (B) by striking “3” and inserting “5”;

23 (2) in subparagraph (A), by striking “and”
24 after the semicolon;

1 (3) in subparagraph (B), by striking the period
2 at the end and inserting a semicolon; and

3 (4) by adding at the end the following new sub-
4 paragraphs:

5 “(C) at least 1 energy storage system dem-
6 onstration project designed to further the safety
7 of technologies described in clause (iii) or (iv)
8 of such subsection, including through stress
9 testing to failure; and

10 “(D) at least 1 energy storage system
11 demonstration project designed to further the
12 safety of technologies described in clause (v) or
13 (vi) of such subsection, including through stress
14 testing to failure.”.

15 (d) ENERGY STORAGE PILOT GRANT PROGRAM.—

16 (1) EXPANDING SELECTION REQUIREMENTS.—

17 Paragraph (2)(C)(ii) of section 3201(e) of the En-
18 ergy Act of 2020 (42 U.S.C. 17232(e)) is amend-
19 ed—

20 (A) in subclause (II), by striking “and”
21 after the semicolon; and

22 (B) by adding at the end the following new
23 subclauses:

24 “(IV) improve the safety of oper-
25 ational energy storage systems

1 through component, module, and inte-
2 grated system level testing and eval-
3 uation; and

4 “(V) utilize data from such en-
5 ergy storage systems to improve, such
6 as through the prediction of system
7 failure, the safety of such energy stor-
8 age systems;”.

9 (2) EXPANDING OBJECTIVES.—Paragraph
10 (2)(D) of section 3201(c) of the Energy Act of 2020
11 (42 U.S.C. 17232(c)) is amended by adding at the
12 end the following new clauses:

13 “(xiii) To improve and advance the
14 robustness of testing and evaluation meth-
15 odologies for energy storage systems.

16 “(xiv) To improve and advance data
17 collection mechanisms for operational en-
18 ergy storage systems.

19 “(xv) To improve the diagnostic, arti-
20 ficial intelligence, computing, and digital
21 twin capabilities of energy storage systems.

22 “(xvi) To improve the safety of in-
23 stalled energy storage systems.

24 “(xvii) To test innovative chemistries
25 for grid-connected energy storage systems

1 that are safer than conventional chem-
2 istries for such energy storage systems.”.

3 (e) EXPANDING PRIORITIES OF THE ELECTRIC VEHI-
4 CLE BATTERY SECOND-LIFE PROJECT.—Paragraph
5 (3)(C) of section 3201(c) of the Energy Act of 2020 (42
6 U.S.C. 17232(c)) is amended by inserting “advanced safe-
7 ty testing and evaluation methodologies or” after “from”.

8 (f) CHEMISTRIES AND STRESS TESTING IN LONG-
9 DURATION DEMONSTRATION INITIATIVE AND JOINT PRO-
10 GRAM.—Subsection (d) of section 3201 of the Energy Act
11 of 2020 (42 U.S.C. 17232) is amended—

12 (1) in paragraph (3)(A), by inserting “and
13 chemistries” after “types”; and

14 (2) in paragraph (4)—

15 (A) in subparagraph (A)—

16 (i) in clause (i), by striking “scales;
17 and” and inserting “scales and with var-
18 ious chemistries;”;

19 (ii) in clause (ii), by striking the pe-
20 riod at the end and inserting “; and”; and

21 (iii) by adding at the end the fol-
22 lowing new clause:

23 “(iii) to develop safety features that
24 prevent or mitigate the failure of long-du-
25 ration energy storage technologies.”; and

1 (B) in subparagraph (C)(ii), by inserting
2 “for stress testing integrated energy storage
3 systems to failure” after “appropriate”.

4 (g) AUTHORIZATION OF APPROPRIATIONS.—Sub-
5 section (h) of section 3201 of the Energy Act of 2020 (42
6 U.S.C. 17232) is amended—

7 (1) in paragraph (2), by striking “and”;

8 (2) in paragraph (3), by striking the period at
9 the end and inserting “; and”; and

10 (3) by adding at the end the following new
11 paragraph:

12 “(4) to carry out programs, initiatives, and as-
13 sociated activities relating to the safety of energy
14 storage systems and energy storage technologies
15 pursuant to subsections (b) through (d), as the case
16 may be, \$30,000,000 for each of fiscal years 2027
17 through 2031, to remain available until expended.”.