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(Original Signature of Member)

118TH CONGRESS
2D SESSION

H. R. 9710

To amend the Energy Policy Act of 2005 to support a program to advance the research, development, demonstration, and commercial application of small modular reactors and micro-reactors in order to accelerate the availability of United States-based technologies, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

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

A BILL

To amend the Energy Policy Act of 2005 to support a program to advance the research, development, demonstration, and commercial application of small modular reactors and micro-reactors in order to accelerate the availability of United States-based technologies, 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 “Small Modular Reactor
5 Demonstration Act of 2024”.

1 **SEC. 2. SMALL MODULAR REACTOR DEMONSTRATION PRO-**
2 **GRAM.**

3 (a) IN GENERAL.—Subtitle E of title IX of the En-
4 ergy Policy Act of 2005 (42 U.S.C. 16271 et seq.) is
5 amended by adding at the end the following new section:

6 **“SEC. 959D. SMALL MODULAR REACTOR DEMONSTRATION**
7 **PROGRAM.**

8 “(a) DEFINITIONS.—In this section:

9 “(1) ADVANCED NUCLEAR REACTOR.—The
10 term ‘advanced nuclear reactor’ has the meaning
11 given such term in section 951 of the Energy Policy
12 Act of 2005 (42 U.S.C. 16271).

13 “(2) DEMONSTRATION PROJECT.—The term
14 ‘demonstration project’ means a small modular reac-
15 tor or micro-reactor when operated as part of the
16 power generation facilities of an electric utility sys-
17 tem, or when operated in any other manner for the
18 purpose of demonstrating the suitability for commer-
19 cial application of such a reactor.

20 “(3) MICRO-REACTOR.—The term ‘micro-reac-
21 tor’ means an advanced nuclear reactor that has an
22 electric power production capacity that is not greater
23 than 50 electrical megawatts.

24 “(4) SMALL MODULAR REACTOR.—The term
25 ‘small modular reactor’ means an advanced nuclear

1 reactor with a rated capacity that is not greater
2 than 700 electrical megawatts per unit.

3 “(b) PROGRAM.—In collaboration with industry part-
4 ners, owners and operators of electric utilities, institutions
5 of higher education, and the national laboratories, the Sec-
6 retary shall support a program to advance the research,
7 development, demonstration, and commercial application
8 of small modular reactors and micro-reactors in order to
9 accelerate the availability of United States-based tech-
10 nologies into domestic and international markets by car-
11 rying out the following:

12 “(1) Demonstrating a variety of small modular
13 reactor and micro-reactor technologies, including
14 those that could—

15 “(A) be used for power generation, proc-
16 essing steam or heat production, desalination,
17 or other industrial and chemical uses;

18 “(B) be sited at locations not practicable
19 for other new energy generation technologies as
20 of the date of the enactment of this section;

21 “(C) offer distinct safeguards, security, or
22 nonproliferation advantages;

23 “(D) use light water or non-light water
24 coolants, such as gas, liquid metals, or molten
25 salts;

1 “(E) supply remote or off-grid energy;

2 “(F) supply backup or mission-critical
3 power supplies; or

4 “(G) supply power for data centers.

5 “(2) In coordination and furtherance of the Ad-
6 vanced Nuclear Energy Cost-Share Grant Program
7 established pursuant to section 3 of the Nuclear En-
8 ergy Innovation Capabilities Act of 2017 (42 U.S.C.
9 16280), accelerating certification, licensing, and
10 siting of domestic small modular reactor and micro-
11 reactor designs through competitive awards to sup-
12 port design, licensing, supplier development, and site
13 preparation of designs that can be deployed by not
14 later than September 30, 2034.

15 “(3) Reducing economic, technical, and regu-
16 latory barriers to deployment.

17 “(4) Identifying and resolving research, devel-
18 opment, and demonstration areas that the private
19 sector is unable or unwilling to undertake due to the
20 cost of, or risks associated with, any of such areas.

21 “(5) Supporting small modular reactor and
22 micro-reactor safety, training, and workforce devel-
23 opment at institutions of higher education, including
24 community colleges and trade schools.

1 “(6) Facilitating the access of the private sector
2 to the following:

3 “(A) Federal research and development fa-
4 cilities and personnel.

5 “(B) National Laboratories.

6 “(C) The results of research and develop-
7 ment relating to civil nuclear technology funded
8 by the Federal Government.

9 “(c) DEMONSTRATION PROJECTS.—In carrying out
10 demonstration projects under the program described in
11 subsection (b), the Secretary, in coordination with the ad-
12 vanced reactor demonstration program established under
13 section 959A may, not later than one year after the date
14 of the enactment of this section, award not more than two
15 near term utility demonstration projects of grid scale
16 small modular reactor technology in the United States to
17 applicants with, to the maximum extent practicable, an ex-
18 pected orderbook of deployments or an early site permit
19 from the U.S. Nuclear Regulatory Commission for an ad-
20 vanced nuclear reactor.

21 “(d) REQUIREMENTS.—In carrying out demonstra-
22 tion projects under the program described in subsection
23 (b) and in accordance with subsection (c), the Secretary
24 shall—

1 “(1) require a non-Federal or utility cost share
2 of not less than 50 percent for such demonstration
3 projects pursuant to section 988 of the Energy Pol-
4 icy Act of 2005 (42 U.S.C. 16352);

5 “(2) include, as an evaluation criterion, diver-
6 sity in designs for the small modular reactors and
7 micro-reactors demonstrated under such projects, in-
8 cluding designs using various—

9 “(A) estimated capital investments, with
10 emphases on reduced construction costs and du-
11 rations as compared to other advanced nuclear
12 reactors;

13 “(B) end-use applications;

14 “(C) output of wastes requiring disposal;

15 “(D) abilities to utilize recycled spent nu-
16 clear fuel;

17 “(E) technology readiness levels; and

18 “(F) abilities to be co-located on existing
19 power plant sites;

20 “(3) to the maximum extent practicable, utilize
21 technologies and lessons learned from the National
22 Reactor Innovation Center of the Idaho National
23 Laboratory and the Department of Defense’s and
24 Department of Energy’s pilot program for micro-re-
25 actors, commonly known as ‘Project Pele’; and

1 “(4) to the maximum extent practicable, require
2 adherence to milestone-based demonstration project
3 authorities in accordance with section 9005 of the
4 Energy Act of 2020 (42 U.S.C. 7256e; division Z of
5 the Consolidated Appropriations Act, 2021 (Public
6 Law 116–260)).

7 “(e) SITING.—The Secretary shall select at least one
8 demonstration project under subsection (e)(1) to be lo-
9 cated on or adjacent to a site on which a nuclear reactor
10 operates, previously operated, or could operate in the fu-
11 ture with existing energy infrastructure, including current,
12 former, or underutilized facilities on Federal property or
13 in the custody and control of the Tennessee Valley Author-
14 ity established under the Tennessee Valley Authority Act
15 of 1933 (16 U.S.C. 831 et seq.).

16 “(f) AUTHORIZATION OF APPROPRIATIONS.—To
17 carry out this section, there is authorized to be appro-
18 priated the following:

19 “(1) For activities of the program established
20 under subsection (b), \$100,000,000 for each of fiscal
21 years 2025 through 2027.

22 “(2) For demonstration projects established
23 under subsection (c), the following:

24 “(A) \$300,000,000 for fiscal year 2025.

25 “(B) \$300,000,000 for fiscal year 2026.

1 “(C) \$200,000,000 for fiscal year 2027.

2 “(g) REPORT.—Not later than two years after the
3 date of the enactment of this section, the Secretary shall
4 submit to the Committee on Science, Space, and Tech-
5 nology of the House of Representatives and Committee on
6 Energy and Natural Resources of the Senate a report on
7 activities carried out under this section, including relating
8 to the progress and timeline of demonstration projects
9 under subsection (c).”.

10 (b) SMALL MODULAR REACTOR SITING WITH EXIST-
11 ING INFRASTRUCTURE.—

12 (1) IN GENERAL.—Not later than one year
13 after the date of the enactment of this Act, as part
14 of the program established under section 959D of
15 the Energy Policy Act of 2005 (as added by sub-
16 section (a)), the Secretary of Energy shall identify
17 priority sites for small modular reactors and micro-
18 reactors (as such terms are defined in such section)
19 at locations with existing energy infrastructure.

20 (2) SITE SELECTION.—The Secretary of Energy
21 shall identify locations referred to in paragraph (1)
22 by considering sites with the following attributes:

23 (A) Increased cost-effectiveness through
24 measurable energy savings, water savings or

1 reuse, or infrastructure costs averted from
2 using existing energy infrastructure.

3 (B) Expected replicability at similar sites
4 in a variety of geographic regions.

5 (C) The ability to supplement existing en-
6 ergy load.

7 (D) Relevant permitting, workforce, or
8 transmission to accommodate completion of
9 construction on an expedited timeline as com-
10 pared to traditional nuclear power.

11 (E) Existing relationships with an electric
12 utility provider.

13 (F) Existing Federal infrastructure or
14 workforce presence with unique energy supply
15 challenges.

16 (G) Efforts to obtain early site permits or
17 other recognition from the U.S. Nuclear Regu-
18 latory Commission for suitability to deploy ad-
19 vanced nuclear technologies.

20 (3) EXISTING SITES.—The Secretary of Energy
21 shall include a list of Department of Energy sites or
22 installations that are critical national security infra-
23 structure (as such term is defined in section 327(d)
24 of the John S. McCain National Defense Authoriza-
25 tion Act for Fiscal Year 2019 (Public Law 115–

1 232)) that are determined to be practical sites for
2 small modular reactors and micro-reactors.

3 (4) REPORT.—The Secretary of Energy shall
4 submit to the Committee on Science, Space, and
5 Technology of the House of Representatives and the
6 Committee on Energy and Natural Resources of the
7 Senate a report on sites identified pursuant to this
8 subsection.

9 (c) CLERICAL AMENDMENT.—The table of contents
10 of the Energy Policy Act of 2005 is amended by inserting
11 after the item relating to section 959C the following new
12 item:

“Sec. 959D. Small modular reactor demonstration program.”.