

117TH CONGRESS
1ST SESSION

H. R. 4819

To require the Secretary of Energy to revitalize existing university infrastructure relating to nuclear science and engineering and establish new university-based nuclear science and engineering facilities, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

JULY 29, 2021

Mr. GONZALEZ of Ohio (for himself, Mr. FOSTER, Mr. CASTEN, and Mr. MELJER) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

A BILL

To require the Secretary of Energy to revitalize existing university infrastructure relating to nuclear science and engineering and establish new university-based nuclear science and engineering facilities, 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 “National Nuclear Uni-
5 versity Research Infrastructure Reinvestment Act of
6 2021”.

1 **SEC. 2. PURPOSES.**

2 The purposes of this Act are—

3 (1) to upgrade the nuclear research capabilities
4 of universities in the United States to meet the re-
5 search requirements of advanced nuclear energy sys-
6 tems;

7 (2) to ensure the continued operation of univer-
8 sity research reactors;

9 (3) to coordinate available resources to enable
10 the establishment, including the start and efficient
11 completion of construction, of new nuclear science
12 and engineering facilities; and

13 (4) to support—

14 (A) workforce development critical to
15 maintaining United States leadership in nuclear
16 science and engineering and related disciplines;
17 and

18 (B) the establishment or enhancement of
19 nuclear science and engineering capabilities and
20 other, related capabilities at historically Black
21 colleges and universities, Tribal colleges or uni-
22 versities, minority-serving institutions, EPSCoR
23 universities, junior or community colleges, and
24 associate-degree-granting colleges.

1 **SEC. 3. UNIVERSITY INFRASTRUCTURE COLLABORATION.**

2 Section 954(a) of the Energy Policy Act of 2005 (42
3 U.S.C. 16274(a)) is amended—

4 (1) in paragraph (2), by amending subpara-
5 graph (D) to read as follows:

6 “(D) promote collaborations, partnerships,
7 and knowledge sharing between institutions of
8 higher education, National Laboratories, indus-
9 try, and associated labor unions; and”;

10 (2) by amending paragraph (4) to read as fol-
11 lows:

12 “(4) STRENGTHENING UNIVERSITY RESEARCH
13 AND TRAINING REACTORS AND ASSOCIATED INFRA-
14 STRUCTURE.—

15 “(A) IN GENERAL.—In carrying out the
16 program under this subsection, the Secretary
17 may support—

18 “(i) converting research reactors from
19 high-enrichment fuels to low-enrichment
20 fuels and upgrading operational instrumen-
21 tation;

22 “(ii) revitalizing and upgrading exist-
23 ing nuclear science and engineering infra-
24 structure that support the development of
25 advanced nuclear technologies and applica-
26 tions;

1 “(iii) regional or subregional univer-
2 sity-led consortia to—

3 “(I) broaden access to university
4 research reactors;

5 “(II) enhance existing university-
6 based nuclear science and engineering
7 infrastructure; and

8 “(III) provide project manage-
9 ment, technical support, quality engi-
10 neering and inspections, manufac-
11 turing, and nuclear material support;

12 “(iv) student training programs, in
13 collaboration with the United States nu-
14 clear industry, in relicensing and upgrad-
15 ing reactors, including through the provi-
16 sion of technical assistance; and

17 “(v) reactor improvements that em-
18 phasize research, training, and education,
19 including through the Innovations in Nu-
20 clear Infrastructure and Education Pro-
21 gram or any similar program.

22 “(B) AUTHORIZATION OF APPROPRIA-
23 TIONS.—Of any amounts appropriated to carry
24 out the program under this subsection, there is
25 authorized to be appropriated to the Secretary

1 to carry out clauses (ii) and (iii) of subpara-
2 graph (A) \$55,000,000 for each of fiscal years
3 2022 through 2026.”.

4 **SEC. 4. ADVANCED NUCLEAR RESEARCH INFRASTRUCTURE**
5 **ENHANCEMENT SUBPROGRAM.**

6 Section 954(a) of the Energy Policy Act of 2005 (42
7 U.S.C. 16274(a)), as amended by section 3, is further
8 amended—

9 (1) by redesignating paragraphs (5) through
10 (8) as paragraphs (6) through (9), respectively;

11 (2) by inserting after paragraph (4) the fol-
12 lowing:

13 “(5) ADVANCED NUCLEAR RESEARCH INFRA-
14 STRUCTURE ENHANCEMENT.—

15 “(A) IN GENERAL.—The Secretary shall
16 carry out a subprogram to be known as the Ad-
17 vanced Nuclear Research Infrastructure En-
18 hancement Subprogram in order to—

19 “(i) demonstrate various advanced nu-
20 clear reactor and nuclear microreactor con-
21 cepts;

22 “(ii) establish medical isotope produc-
23 tion reactors or other specialized applica-
24 tions; and

1 “(iii) advance other research infra-
2 structure that, in the determination of the
3 Secretary, is consistent with the mission of
4 the Department.

5 “(B) NEW NUCLEAR SCIENCE AND ENGI-
6 NEERING FACILITIES.—In carrying out the sub-
7 program, the Secretary shall establish—

8 “(i) not more than 4 new research re-
9 actors; and

10 “(ii) new nuclear science and engi-
11 neering facilities, as required to address re-
12 search demand and identified infrastruc-
13 ture gaps.

14 “(C) LOCATIONS.—New research reactors
15 and facilities established under subparagraph
16 (B) shall be established in a manner that—

17 “(i) supports the regional or sub-
18 regional consortia described in paragraph
19 (4)(C); and

20 “(ii) encourages the participation of—

21 “(I) historically Black colleges
22 and universities;

23 “(II) Tribal colleges or univer-
24 sities;

1 “(III) minority-serving institu-
2 tions;

3 “(IV) EPSCoR universities;

4 “(V) junior or community col-
5 leges; and

6 “(VI) associate-degree-granting
7 colleges.

8 “(D) AUTHORIZATION OF APPROPRIA-
9 TIONS.—Of any amounts appropriated to carry
10 out the program under this subsection, there
11 are authorized to be appropriated to the Sec-
12 retary to carry out the subprogram under this
13 paragraph—

14 “(i) \$10,000,000 for fiscal year 2022;

15 “(ii) \$45,000,000 for fiscal year 2023;

16 “(iii) \$60,000,000 for fiscal year
17 2024;

18 “(iv) \$65,000,000 for fiscal year
19 2025;

20 “(v) \$80,000,000 for fiscal year 2026;

21 “(vi) \$140,000,000 for fiscal year
22 2027;

23 “(vii) \$120,000,000 for fiscal year
24 2028; and

1 “(viii) \$80,000,000 for fiscal year
2 2029.”; and

3 (3) by amending paragraph (9), as redesignated
4 by paragraph (1) of this subsection, to read as fol-
5 lows:

6 “(9) DEFINITIONS.—In this subsection:

7 “(A) ASSOCIATE-DEGREE-GRANTING COL-
8 LEGE.—The term ‘associate-degree-granting
9 college’ means an institution of higher edu-
10 cation (as determined under section 101 of the
11 Higher Education Act of 1965 (20 U.S.C.
12 1001)) that—

13 “(i) is a nonprofit institution that of-
14 fers a 2-year associate-degree program or a
15 2-year certificate program; or

16 “(ii) is a proprietary institution that
17 offers a 2-year associate degree program.

18 “(B) JUNIOR FACULTY.—The term ‘junior
19 faculty’ means a faculty member who was
20 awarded a doctorate less than 10 years before
21 receipt of an award from the grant program de-
22 scribed in paragraph (2)(B).

23 “(C) JUNIOR OR COMMUNITY COLLEGE.—
24 The term ‘junior or community college’ has the
25 meaning given the term in section 312 of the

1 Higher Education Act of 1965 (20 U.S.C.
2 1058).

3 “(D) EPSCoR UNIVERSITY.—The term
4 ‘EPSCoR university’ means an institution of
5 higher education located in a State eligible to
6 participate in the program defined in section
7 502 of the America COMPETES Reauthoriza-
8 tion Act of 2010 (42 U.S.C. 1862p note).

9 “(E) HISTORICALLY BLACK COLLEGE OR
10 UNIVERSITY.—The term ‘historically Black col-
11 lege or university’ has the meaning given the
12 term ‘part B institution’ in section 322 of the
13 Higher Education Act of 1965 (20 U.S.C.
14 1061).

15 “(F) MINORITY-SERVING INSTITUTION.—
16 The term ‘minority-serving institution’ means a
17 Hispanic-serving institution, an Alaska Native-
18 serving institution, a Native Hawaiian-serving
19 institutions, a Predominantly Black Institution,
20 an Asian American and Native American Pa-
21 cific Islander-serving institution, or a Native
22 American-serving nontribal institution as de-
23 scribed in section 371 of the Higher Education
24 Act of 1965 (20 U.S.C. 1067q(a)).

1 “(G) TRIBAL COLLEGE OR UNIVERSITY.—
2 The term ‘Tribal college or university’ has the
3 meaning given such term in section 316 of the
4 Higher Education Act of 1965 (20 U.S.C.
5 1059c).”.

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