

**AMENDMENT IN THE NATURE OF A SUBSTITUTE
TO H.R. 4733
OFFERED BY M. _____**

Strike all after the enacting clause and insert the following:

1 SECTION 1. SHORT TITLE.

2 This Act may be cited as the “Low-Dose Radiation
3 Research Act of 2019”.

4 SEC. 2. LOW-DOSE RADIATION RESEARCH PROGRAM.

5 Section 306(c) of the Department of Energy Re-
6 search and Innovation Act (42 U.S.C. 18644(c)) is
7 amended to read as follows:

8 “(c) LOW-DOSE RADIATION RESEARCH PROGRAM.—

9 “(1) IN GENERAL.—The Secretary shall carry
10 out a basic research program on low-dose and low
11 dose-rate radiation to—

12 “(A) enhance the scientific understanding
13 of, and reduce uncertainties associated with, the
14 effects of exposure to low-dose and low dose-
15 rate radiation; and

16 “(B) inform improved risk-assessment and
17 risk-management methods with respect to such
18 radiation.

1 “(2) PROGRAM COMPONENTS.—In carrying out
2 the program required under paragraph (1), the Sec-
3 retary shall—

4 “(A) formulate scientific goals for low-dose
5 and low dose-rate radiation basic research in
6 the United States;

7 “(B) identify ongoing scientific challenges
8 for understanding the long-term effects of ion-
9 izing radiation on biological systems;

10 “(C) develop a long-term strategic and
11 prioritized basic research agenda to address
12 such scientific challenges in coordination with
13 other research efforts;

14 “(D) identify and, to the extent possible,
15 quantify, potential monetary and health-related
16 benefits to Federal agencies, the general public,
17 industry, research communities, and other users
18 of information produced by such research pro-
19 gram;

20 “(E) leverage the collective body of knowl-
21 edge from existing low-dose and low dose-rate
22 radiation research; and

23 “(F) engage with other Federal agencies,
24 research communities, and potential users of in-
25 formation produced under this section, includ-

1 ing institutions concerning radiation research,
2 medical physics, radiology, health physics, and
3 emergency response.

4 “(3) COORDINATION.—In carrying out the pro-
5 gram, the Secretary, in coordination with the Phys-
6 ical Science Subcommittee of the National Science
7 and Technology Council, shall—

8 “(A) support the directives under section
9 106 of the American Innovation and Competi-
10 tiveness Act (42 U.S.C. 6601 note);

11 “(B) ensure that the Office of Science of
12 the Department of Energy consults and coordi-
13 nates with the National Aeronautics and Space
14 Administration, the National Institutes of
15 Health, the Environmental Protection Agency,
16 the Department of Defense, the Nuclear Regu-
17 latory Commission, and the Department of
18 Homeland Security;

19 “(C) advise and assist the National
20 Science and Technology Council on policies and
21 initiatives in radiation biology, including en-
22 hancing scientific knowledge of the effects of
23 low-dose and low dose-rate radiation on biologi-
24 cal systems to improve radiation risk-assess-
25 ment and risk-management methods; and

1 “(D) identify opportunities to stimulate
2 international cooperation relating to low-dose
3 and low dose-rate radiation and leverage re-
4 search and knowledge from sources outside of
5 the United States.

6 “(4) RESEARCH PLAN.—Not later than 180
7 days after the date of enactment of the Low-Dose
8 Radiation Research Act of 2019, the Secretary shall
9 transmit to the Committee on Science, Space, and
10 Technology of the House of Representatives and the
11 Committee on Energy and Natural Resources of the
12 Senate a 4-year research plan that identifies and
13 prioritizes basic research needs relating to low-dose
14 and low dose-rate radiation. In developing such plan,
15 the Secretary shall incorporate the components de-
16 scribed in paragraph (2).

17 “(5) DEFINITIONS.—In this subsection:

18 “(A) LOW-DOSE RADIATION.—The term
19 ‘low-dose radiation’ means a radiation dose of
20 less than 100 millisieverts.

21 “(B) LOW DOSE-RATE RADIATION.—The
22 term ‘low dose-rate radiation’ means a radiation
23 dose rate of less than 5 millisieverts per hour.

24 “(6) RULE OF CONSTRUCTION.—Nothing in
25 this subsection shall be construed to subject any re-

1 search carried out by the Secretary for the program
2 under this subsection to any limitations described in
3 section 977(e) of the Energy Policy Act of 2005 (42
4 U.S.C. 16317(e)).

5 “(7) FUNDING.—For purposes of carrying out
6 this subsection, the Secretary is authorized to make
7 available from funds provided to the Biological and
8 Environmental Research Program—

9 “(A) \$20,000,000 for fiscal year 2021;

10 “(B) \$20,000,000 for fiscal year 2022;

11 “(C) \$30,000,000 for fiscal year 2023; and

12 “(D) \$30,000,000 for fiscal year 2024.”.

13 **SEC. 3. SPENDING LIMITATION.**

14 No additional funds are authorized to be appro-
15 priated to carry out this Act and the amendments made
16 by this Act, and this Act and such amendments shall be
17 carried out using amounts otherwise available for such
18 purpose.

