

119TH CONGRESS
2D SESSION

S. 4363

To extend the requirement for annual briefings on National Biodefense Strategy and to require analysis and recommendations relating to the risks of engineering biology, and for other purposes.

IN THE SENATE OF THE UNITED STATES

APRIL 21, 2026

Mr. KAINE (for himself and Mr. BUDD) introduced the following bill; which was read twice and referred to the Committee on Homeland Security and Governmental Affairs

A BILL

To extend the requirement for annual briefings on National Biodefense Strategy and to require analysis and recommendations relating to the risks of engineering biology, 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 “Engineering Biology
5 Readiness Act”.

1 **SEC. 2. EXTENSION OF REQUIREMENT FOR ANNUAL BRIEF-**
 2 **INGS ON NATIONAL BIODEFENSE STRATEGY.**

3 Section 1086(d) of the National Defense Authoriza-
 4 tion Act for Fiscal Year 2017 (6 U.S.C. 104(d)) is amend-
 5 ed by striking “March 1, 2025” and inserting “the date
 6 that is five years after the date of the enactment of the
 7 National Defense Authorization Act for Fiscal Year
 8 2027”.

9 **SEC. 3. ANALYSIS AND RECOMMENDATIONS RELATING TO**
 10 **ENGINEERING BIOLOGY RISKS.**

11 (a) IN GENERAL.—The first time after the date of
 12 the enactment of this Act that findings are provided to
 13 the appropriate congressional committees pursuant to the
 14 biennial update of the biodefense threat assessment under
 15 section 364(d)(1)(D) of the William M. (Mac) Thornberry
 16 National Defense Authorization Act for Fiscal Year 2021
 17 (6 U.S.C. 106(d)(1)(D)), such findings shall include an
 18 analysis of, and recommendations to enhance, the readi-
 19 ness of the United States national security enterprise and
 20 life science research enterprise against engineering biology
 21 risks.

22 (b) MATTERS INCLUDED.—

23 (1) ANALYSIS.—The analysis required by sub-
 24 section (a) shall include the following:

1 (A) An assessment of the threat to na-
2 tional security and public safety posed by cur-
3 rent and anticipated engineering biology risks.

4 (B) A description of current lines of re-
5 search and development in covered departments
6 and agencies relating to biodefense against en-
7 gineering biology risks, including prevention,
8 deterrence, preparedness, detection, response,
9 attribution, recovery, and mitigation.

10 (C) An analysis of authorities, regulations,
11 and programs pertaining to engineering biology
12 risks, in the United States, including biosafety,
13 biosecurity, and biodefense.

14 (D) An evaluation of gaps, deficiencies,
15 redundancies, and ambiguities in authorities
16 and regulations pertaining to engineering biol-
17 ogy risks.

18 (E) Such other matters as the heads of the
19 covered departments and agencies jointly con-
20 sider relevant.

21 (2) RECOMMENDATIONS.—The recommenda-
22 tions required by subsection (a) shall include rec-
23 ommendations for the following:

24 (A) Aligning lines of research and develop-
25 ment across covered departments and agencies

1 to reduce redundant efforts and promote the
2 mutual benefit for purposes of biosafety, bio-
3 security, and biodefense against engineering bi-
4 ology risks.

5 (B) Modernizing biosafety, biosecurity, and
6 biodefense authorities, regulations, and pro-
7 grams pertaining to engineering biology risks to
8 ensure the United States—

9 (i) mitigates the safety and security
10 threat to national security and public safe-
11 ty posed by engineering biology risks; and

12 (ii) benefits from the research, devel-
13 opment, application, and dissemination of
14 innovations in engineering biology under
15 an enduring governance framework that
16 accommodates novel discoveries and capa-
17 bilities in life sciences research;

18 (C) Establishing a program or programs,
19 or modernizing an existing program or pro-
20 grams—

21 (i) to establish and enforce safeguards
22 to mitigate engineering biology risks to na-
23 tional security or public safety; and

24 (ii) to identify best practices, promul-
25 gate voluntary guidance, and provide con-

1 sultation on matters of biosecurity and bio-
2 safety in the United States.

3 (D) For purposes of subparagraphs (B)
4 and (C), detailed proposed legislative action and
5 an estimate of the amount of funding necessary
6 to ensure that relevant programs have adequate
7 resources.

8 (E) Such other matters as the heads of the
9 covered departments and agencies jointly con-
10 sider relevant.

11 (c) CONSULTATION.—The recommendations de-
12 scribed in subsection (b)(2) shall be developed in consulta-
13 tion with—

14 (1) individuals representing industry, academia,
15 and civil society, including representatives of the life
16 sciences research enterprise who have not received
17 any Federal grant or contract in the preceding five
18 years; and

19 (2) such other government agencies or inter-
20 ested stakeholders as the heads of the covered de-
21 partments and agencies jointly consider appropriate.

22 (d) FORM.—The analysis and recommendations re-
23 quired by this section shall be submitted in unclassified
24 form but may include a classified annex.

25 (e) DEFINITIONS.—In this section:

1 (1) The term “covered departments and agen-
2 cies” means the departments and agencies included
3 in section 364(a) of the William M. (Mac) Thorn-
4 berry National Defense Authorization Act for Fiscal
5 Year 2021 (6 U.S.C. 106(a)).

6 (2) The term “engineering biology” has the
7 meaning given such term in section 10002 of the
8 Research and Development, Competition, and Inno-
9 vation Act (42 U.S.C. 18901).

10 (3) The term “engineering biology risk” means
11 a risk to national security or public safety arising
12 from the misuse, abuse, or accidental release of ma-
13 terials arising from, or the misuse or abuse of meth-
14 ods, tools, or information pertaining to, engineering
15 biology.

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