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(Original Signature of Member)

119TH CONGRESS  
1ST SESSION

**H. R.** \_\_\_\_\_

To direct the Subcommittee on the Economic and Security Implications of Quantum Information Science to submit reports on mitigating the cybersecurity and national security risks posed by certain quantum computers, and for other purposes.

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**IN THE HOUSE OF REPRESENTATIVES**

Mr. SUBRAMANYAM introduced the following bill; which was referred to the Committee on \_\_\_\_\_

\_\_\_\_\_  
**A BILL**

To direct the Subcommittee on the Economic and Security Implications of Quantum Information Science to submit reports on mitigating the cybersecurity and national security risks posed by certain quantum computers, 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 “Quantum Encryption  
5       Readiness and Resilience Act”.

1 **SEC. 2. REPORTS ON MITIGATING THE CYBERSECURITY**  
2 **AND NATIONAL SECURITY RISKS POSED BY**  
3 **CERTAIN QUANTUM COMPUTERS.**

4 (a) INITIAL REPORT.—Not later than one year after  
5 the date of the enactment of this Act, the Subcommittee  
6 on the Economic and Security Implications of Quantum  
7 Information Science established under section 105 of the  
8 National Quantum Initiative Act (15 U.S.C. 8814a) shall  
9 carry out the following:

10 (1) Conduct an assessment of each of the fol-  
11 lowing:

12 (A) The capabilities and progress of the  
13 United States, relative to other countries, with  
14 respect to the following:

15 (i) Developing a cryptographically-rel-  
16 evant quantum computer.

17 (ii) Adopting security and prepared-  
18 ness measures, including post-quantum  
19 cryptography, to mitigate the cybersecurity  
20 and national security risks posed by such  
21 computer.

22 (B) The progress of private sector entities  
23 and public sector entities in the United States  
24 toward adopting such measures, including the  
25 progress toward implementing the guidance

1 under section 4 of the Quantum Computing Cy-  
2 bersecurity Preparedness Act (6 U.S.C. 1526).

3 (2) Identify the sectors of the economy most  
4 vulnerable to such risks.

5 (3) Based upon such assessments and such  
6 identification, develop a plan to mitigate such risks,  
7 including by carrying out the following:

8 (A) Facilitating collaboration between  
9 agencies and departments of the Federal Gov-  
10 ernment.

11 (B) Facilitating the exchange of informa-  
12 tion between such private sector entities and  
13 public sector entities.

14 (C) Forming partnerships between the  
15 Federal Government and such private sector en-  
16 tities.

17 (D) Identifying such measures that such  
18 private sector entities and public sector entities  
19 may adopt.

20 (E) Supporting such exchange and the  
21 adoption of such measures, including by identi-  
22 fying actions, including piloting projects, pro-  
23 viding technical assistance, and publishing  
24 cyber hygiene guidance for such private sector  
25 entities, that such agencies and departments

1           may carry out to support such exchange and  
2           adoption.

3           (4) Develop guidelines for determining whether  
4           a quantum computer is a cryptographically-relevant  
5           quantum computer.

6           (5) Submit to the appropriate committees of  
7           Congress a report in classified or unclassified form,  
8           as appropriate, that includes information relating to  
9           the following:

10                 (A) The assessments conducted under  
11                 paragraph (1).

12                 (B) The sectors identified under paragraph  
13                 (2).

14                 (C) The plan developed under paragraph  
15                 (3).

16                 (D) The guidelines developed under para-  
17                 graph (4).

18                 (E) Recommendations for the following:

19                         (i) A timetable to implement such  
20                         plan.

21                         (ii) Policies to implement such plan  
22                         that require legislation.

23                         (iii) Policies to implement such plan  
24                         that do not require legislation.

1 (b) SUBSEQUENT REPORTS.—Not later than one  
2 year after the report under subsection (a) is submitted and  
3 annually thereafter for four years, the Subcommittee re-  
4 ferred to in such subsection shall submit to Congress a  
5 report in classified or unclassified form, as appropriate,  
6 that includes information relating to the progress of pri-  
7 vate sector entities and public sector entities in the United  
8 States toward adopting the measures described in such  
9 subsection.

10 (c) DEFINITIONS.—In this section:

11 (1) APPROPRIATE COMMITTEES OF CON-  
12 GRESS.—The term “appropriate committees of Con-  
13 gress” has the meaning given such term in section  
14 2 of the National Quantum Initiative Act (15 U.S.C.  
15 8801).

16 (2) CLASSICAL COMPUTER; POST-QUANTUM  
17 CRYPTOGRAPHY; QUANTUM COMPUTER.—The terms  
18 “classical computer”, “post-quantum cryptography”,  
19 and “quantum computer” have the meanings given  
20 such terms in section 3 of the Quantum Computing  
21 Cybersecurity Preparedness Act (6 U.S.C. 1526  
22 note).

23 (3) CRYPTOGRAPHICALLY-RELEVANT QUANTUM  
24 COMPUTER.—The term “cryptographically-relevant  
25 quantum computer” means a quantum computer

1       with the ability to compromise a cryptographic sys-  
2       tem that a classical computer is unable to com-  
3       promise.