

118TH CONGRESS  
1ST SESSION

# S. 3115

To amend the National Quantum Initiative Act to require the Secretary of Energy to conduct research on how quantum information science, technology, and engineering can enhance the resilience and security of the electric grid, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

OCTOBER 24, 2023

Mr. CORNYN (for himself and Mr. PADILLA) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To amend the National Quantum Initiative Act to require the Secretary of Energy to conduct research on how quantum information science, technology, and engineering can enhance the resilience and security of the electric grid, 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 “Grid Resilience Innova-  
5 tion and Development Act” or the “GRID Act”.

1 **SEC. 2. QUANTUM INFORMATION SCIENCE TO ENHANCE**  
2 **THE RESILIENCE, SECURITY, AND EFFI-**  
3 **CIENCY OF THE ELECTRIC GRID.**

4 (a) IN GENERAL.—Title IV of the National Quantum  
5 Initiative Act (15 U.S.C. 8851 et seq.) is amended by add-  
6 ing at the end the following:

7 **“SEC. 405. QUANTUM INFORMATION SCIENCE TO ENHANCE**  
8 **THE RESILIENCE AND SECURITY OF THE**  
9 **ELECTRIC GRID.**

10 “(a) IN GENERAL.—The Secretary of Energy (re-  
11 ferred to in this section as the ‘Secretary’) shall conduct  
12 research, development, and demonstration activities fo-  
13 cused on the use of quantum information science, engi-  
14 neering, and technology, including through quantum appli-  
15 cations and quantum computing, to enhance the resilience,  
16 security, and efficiency of the electric grid in the United  
17 States.

18 “(b) RESEARCH AREAS.—In carrying out subsection  
19 (a), the Secretary shall conduct research in the following  
20 areas:

21 “(1) Fault detection and prediction.

22 “(2) Grid security and safety, including through  
23 post-quantum cryptography.

24 “(3) Integrated grid planning.

25 “(4) Grid optimization.

26 “(5) Enhanced modeling.

