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AMENDMENT NO. _____ Calendar No. _____

Purpose: To utilize the Energy Sciences Network User Facility to advance a broad range of testing and research.

IN THE SENATE OF THE UNITED STATES—117th Cong., 1st Sess.

S. 1260

To establish a new Directorate for Technology and Innovation in the National Science Foundation, to establish a regional technology hub program, to require a strategy and report on economic security, science, research, innovation, manufacturing, and job creation, to establish a critical supply chain resiliency program, and for other purposes.

Referred to the Committee on _____ and ordered to be printed

Ordered to lie on the table and to be printed

AMENDMENT intended to be proposed by Mr. THUNE

Viz:

1 In section 211, at the end add the following:

2 (g) ENERGY SCIENCES NETWORK.—

3 (1) IN GENERAL.—The Secretary of Energy
4 (referred to in this subsection as the “Secretary”),
5 in coordination with the National Science Founda-
6 tion and the National Aeronautics and Space Ad-
7 ministration, shall supplement the Energy Sciences
8 Network User Facility (referred to in this subsection
9 as the “Network”) with dedicated quantum network

1 infrastructure to advance development of quantum
2 networking and communications technology.

3 (2) PURPOSE.—The purpose of paragraph (1)
4 is to utilize the Network to advance a broad range
5 of testing and research, including relating to—

6 (A) the establishment of stable, long-base-
7 line quantum entanglement and teleportation;

8 (B) quantum repeater technologies for
9 long-baseline communication purposes;

10 (C) quantum transduction;

11 (D) the coexistence of quantum and clas-
12 sical information;

13 (E) multiplexing, forward error correction,
14 wavelength routing algorithms, and other quan-
15 tum networking infrastructure; and

16 (F) any other technologies or applications
17 determined necessary by the Secretary.

18 (3) AUTHORIZATION OF APPROPRIATIONS.—
19 There are authorized to be appropriated to the Sec-
20 retary to carry out this subsection, \$10,000,000 for
21 each of fiscal years 2022 through 2026.