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119TH CONGRESS
1ST SESSION

H. R. 1223

To require a plan to improve the cybersecurity and telecommunications of the U.S. Academic Research Fleet, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 12, 2025

Mr. FONG (for himself and Ms. STEVENS) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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A BILL

To require a plan to improve the cybersecurity and telecommunications of the U.S. Academic Research Fleet, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Accelerating Networking, Cyberinfrastructure, and Hardware for Oceanic Research Act'' or the ''ANCHOR Act''.

SEC. 2. PLAN TO IMPROVE CYBERSECURITY AND TELECOMMUNICATIONS OF U.S. ACADEMIC RESEARCH FLEET.

(a) IN GENERAL.—Not later than 18 months after the date of the enactment of this Act, the Director, in consultation with other Federal agency owners and the head of any university or laboratory that owns or operates a vessel of the U.S. Academic Research Fleet, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a plan to improve the cybersecurity and telecommunications of the U.S. Academic Research Fleet.

(b) ELEMENTS.—The plan required by subsection (a) shall include—

(1) an assessment of the telecommunications and networking needs of the U.S. Academic Research Fleet, consistent with the typical scientific mission of each vessel;

(2) in accordance with guidance issued by the Cybersecurity and Infrastructure Security Agency and the National Institute for Standards and Technology, an assessment of cybersecurity needs appropriate for—

(A) the operation of vessels within the U.S. Academic Research Fleet; and

(B) the specific research functions and activities of such vessels;

(3) an assessment of the costs necessary to meet the needs described in paragraphs (1) and (2), including—

(A) any necessary equipment costs in excess of current expenditures, such as satellite communications equipment, software, high-performance computing infrastructure shipboard and shoreside, or enterprise hardware;

(B) estimated personnel costs in excess of current expenditures, including any necessary training, support, or logistics; and

(C) the estimated impact on daily charter rates associated with the costs described in subparagraphs (A) and (B);

(4) an assessment of the time required to implement any upgrades required to meet the needs described in paragraphs (1) and (2) under varying budgets and funding scenarios;

(5) an assessment of opportunities for the adoption of common solutions or consortial licensing agreements, or for the centralization of elements of fleet cybersecurity, telecommunications, or data management at a single facility; and

(6) in consultation with any non-Federal owners of a vessel of the U.S. Academic Research Fleet, a spending plan for the National Science Foundation, the Office of Naval Research, non-Federal owners of vessels of the U.S. Academic Research Fleet, users of the U.S. Academic Research Fleet, or any combination thereof, to provide funding to cover the costs described in paragraph (3).

(c) CONSIDERATIONS.—The Director in preparing the plan required by subsection (a), shall, as appropriate, consider the following:

(1) The network capabilities, including speed and bandwidth targets, necessary to meet the scientific mission needs of each class of vessel within the U.S. Academic Research Fleet for such purposes as—

(A) executing the critical functions and communications of each vessel;

(B) providing network access for the health and well-being of deployed personnel, including communications to conduct telemedicine (including mental health care), counseling, interviews with crisis response providers, and other remote individual care and services;

(C) as necessary to meet operations, uploading any scientific data to a cloud-based server or shoreside server, including the copying of data off ship for disaster recovery or risk mitigation purposes;

(D) conducting real-time streaming to enable shore-based observers to participate in ship-based maintenance or research activities;

(E) scientific instrumentation so that it is possible to conduct scientific surveys and seafloor mapping with fully remote subject matter experts;

(F) critical operational technology by manufacturers and vendors so that it is possible to carry out maintenance and repairs to systems with limited expertise on each vessel, with fully remote subject matter experts advising; and

(G) enabling video communications to allow improved outreach to, and other educational services for, K–12 students, including occasional remote classroom teaching for instructors at sea to improve oceanographic access for students.

(2) In consultation with the Director of the Cybersecurity and Infrastructure Security Agency, the

Director of the National Institute for Standards and Technology, and the heads of other Federal agencies, as appropriate—

(A) the cybersecurity recommendations in the report of the private scientific advisory group known as JASON entitled ''Cybersecurity at NSF Major Facilities'' (JSR–21–10E) and dated October 2021 as applied to the U.S. Academic Research Fleet;

(B) aligning with international standards and guidance for information security, including the use of encryption for sensitive information, the detection and handling of security incidents, and other areas determined relevant by the Director;

(C) facilitating access to cybersecurity personnel and training of research and support personnel; and

(D) the requirements for controlled unclassified or classified information.

(d) IMPLEMENTATION OF AND REPORT ON PLAN.—

(1) IN GENERAL.—The Director, in coordination with the Office of Naval Research, non-Federal owners of vessels of the Academic Research Fleet, users of the U.S. Academic Research Fleet, or any

combination thereof, may support upgrades to the cyberinfrastructure and cybersecurity of the U.S. Academic Research Fleet consistent with the plan required by subsection (a).

(2) REPORT REQUIRED.—Not later than two years after the submission of the plan required by subsection (a), the Director shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report describing the progress made in implementing the plan.

(e) DEFINITIONS.—In this section:

(1) DIRECTOR.—The term ''Director'' means the Director of the National Science Foundation.

(2) OCEANOGRAPHIC RESEARCH VESSEL.—The term ''oceanographic research vessel'' has the meaning given the term in section 2101 of title 46, United States Code.

(3) U.S. ACADEMIC RESEARCH FLEET.—The term ''U.S Academic Research Fleet'' means the United States-flagged vessels that—

(A) are operated as oceanographic research vessels by research universities and laboratories;

(B) have achieved designation as a member vessel of the U.S. Academic Research Fleet through the standard U.S. Academic Research Fleet evaluation process; and

(C) have been accepted into, and are active participants within, the University-National Oceanographic Laboratory System.

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