

Union Calendar No. 433

118TH CONGRESS
2^D SESSION

H. R. 7630

[Report No. 118-521]

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

MARCH 12, 2024

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

MAY 23, 2024

Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

A BILL

To require a plan to improve the cybersecurity and telecommunications of the U.S. Academic Research Fleet, 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 “Accelerating Net-
5 working, Cyberinfrastructure, and Hardware for Oceanic
6 Research Act” or the “ANCHOR Act”.

7 **SEC. 2. DEFINITIONS.**

8 In this Act:

9 (1) DIRECTOR.—The term “Director” means
10 the Director of the National Science Foundation.

11 (2) OCEANOGRAPHIC RESEARCH VESSEL.—The
12 term “oceanographic research vessel” has the mean-
13 ing given the term in section 2101 of title 46,
14 United States Code.

15 (3) U.S. ACADEMIC RESEARCH FLEET.—The
16 term “U.S Academic Research Fleet” means the
17 United States-flagged vessels that—

18 (A) have been accepted into, and are ac-
19 tively participants administered within, the Uni-
20 versity-National Oceanographic Laboratory Sys-
21 tem;

22 (B) are operated as oceanographic research
23 vessels by research universities and laboratories;

24 (C) receive funding from the National
25 Science Foundation; and

1 (D) have achieved designation as a mem-
2 ber vessel of the U.S. Academic Research Fleet
3 through the standard U.S. Academic Research
4 Fleet evaluation process.

5 **SEC. 3. PLAN TO IMPROVE CYBERSECURITY AND TELE-**
6 **COMMUNICATIONS OF U.S. ACADEMIC RE-**
7 **SEARCH FLEET.**

8 (a) IN GENERAL.—Not later than one year after the
9 date of the enactment of this Act, the Director , in con-
10 sultation with other Federal agency owners heads of other
11 Federal agencies and the head of any university or labora-
12 tory that owns or operates a vessel of the U.S. Academic
13 Research Fleet, shall submit to the Committee on Com-
14 merce, Science, and Transportation of the U.S. Senate
15 and the Committee on Space, Science, and Technology of
16 the U.S. House of Representatives a plan to improve the
17 cybersecurity and telecommunications of the Academic Re-
18 search Fleet.

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

21 (1) an assessment of the telecommunications
22 and networking needs of the U.S. Academic Re-
23 search Fleet, consistent with the typical scientific
24 mission of each vessel;

1 (2) in accordance with guidance issued by the
2 Cybersecurity and Infrastructure Security Agency
3 and the National Institute for Standards and Tech-
4 nology, an assessment of cybersecurity needs appro-
5 priate for—

6 (A) the ownership of vessels within the
7 U.S. Academic Research Fleet; and

8 (B) the typical research functions and top-
9 ics of such vessels;

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

13 (A) any necessary equipment, such as sat-
14 ellite communications equipment, software,
15 high-performance computing clusters shipboard
16 and shoreside, or enterprise hardware; and

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

20 (4) an assessment of the time required to im-
21 plement any upgrades required to meet the needs
22 described in paragraphs (1) and (2) under varying
23 budgets and funding scenarios;

24 (5) a proposal for the adoption of common solu-
25 tions or consortial licensing agreements, or by cen-

1 tralizing elements of fleet cybersecurity, tele-
2 communications, or data management at a single fa-
3 cility; and

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

12 (c) CONSIDERATIONS.—The Director in preparing
13 the plan required by subsection (a), shall consider the fol-
14 lowing—

15 (1) the network capabilities, including speed
16 and bandwidth targets, necessary to meet the sci-
17 entific mission needs of each class of vessel within
18 the U.S. Academic Research Fleet for such purposes
19 as—

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

22 (B) providing network access for the
23 health and well-being of deployed personnel, in-
24 cluding communications to conduct telemedicine
25 (including mental health care), counseling,

1 interviews with crisis response providers, and
2 other remote individual care and services;

3 (C) as necessary to meet operations,
4 uploading any scientific data to a shoreside
5 server, including the copying of data off ship
6 for disaster recovery or risk mitigation pur-
7 poses;

8 (D) as appropriate, conducting real-time
9 streaming to enable shore-based observers to
10 participate in ship-based maintenance or re-
11 search activities;

12 (E) real-time coordinated viewing of—

13 (i) scientific instrumentation so that it
14 is possible to conduct scientific surveys and
15 seafloor mapping with fully remote subject
16 matter experts; and

17 (ii) critical operational technology by
18 manufacturers and vendors so that it is
19 possible to carry out maintenance and re-
20 pairs to systems with limited expertise on
21 each vessel, with fully remote subject-mat-
22 ter experts advising; and

23 (F) as appropriate, enabling video commu-
24 nications to allow improved outreach to, and
25 other educational services for, K–12 students,

1 including occasional remote classroom teaching
2 for instructors at sea to improve oceanographic
3 access for students; and

4 (2) In consultation with the Director of the Cy-
5 bersecurity and Infrastructure Security Agency, the
6 Director of the National Institute for Standards and
7 Technology, and the heads of other Federal agen-
8 cies, as appropriate—

9 (A) the cybersecurity recommendations in
10 the report of the private scientific advisory
11 group known as JASON entitled “Cybersecurity
12 at NSF Major Facilities” (JSR–21–10E) and
13 dated October 2021 as applied to the U.S. Aca-
14 demic Research Fleet;

15 (B) aligning with international standards
16 and guidance for information security, including
17 the use of encryption for sensitive information,
18 the detection and handling of security incidents,
19 and other areas determined relevant by the Di-
20 rector;

21 (C) facilitating access to cybersecurity per-
22 sonnel and training of research and support
23 personnel; and

24 (D) the requirements for controlled unclas-
25 sified or classified information.

1 **SEC. 4. IMPLEMENTATION OF AND REPORT ON PLAN.**

2 (a) IN GENERAL.—The Director, in coordination with
3 the Office of Naval Research, non-Federal owners of ves-
4 sels of the Academic Research Fleet, users of the U.S.
5 Academic Research Fleet, or any combination thereof,
6 may support upgrades to the cyberinfrastructure and cy-
7 bersecurity of the U.S. Academic Research Fleet con-
8 sistent with the plan required by section 3.

9 (b) REPORT REQUIRED.—Not later than 2 years
10 after the submission of the plan required by section 3, the
11 Director shall submit to the Committee on Commerce,
12 Science, and Transportation of the Senate and the Com-
13 mittee on Space, Science, and Technology of the House
14 of Representatives a report describing the progress made
15 in implementing the plan.

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