

Calendar No. 169

119TH CONGRESS }
1st Session

SENATE

{ REPORT
119-64

ACCELERATING NETWORKING, CYBERINFRA-
STRUCTURE, AND HARDWARE FOR
OCEANIC RESEARCH ACT

R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION

ON

S. 318



SEPTEMBER 29, 2025.—Ordered to be printed

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED NINETEENTH CONGRESS

FIRST SESSION

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Mr. CRUZ, from the Committee on Commerce, Science, and
Transportation, submitted the following

R E P O R T

[To accompany S. 318]

[Including cost estimate of the Congressional Budget Office]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 318) to require a plan to improve the cybersecurity and telecommunications of the U.S. Academic Research Fleet, and for other purposes, having considered the same, reports favorably thereon with an amendment in the nature of a substitute and recommends that the bill, as amended, do pass.

PURPOSE OF THE BILL

The purpose of the bill is to require the National Science Foundation (NSF) Director to create a plan to improve the cybersecurity and telecommunications of the U.S. Academic Research Fleet (ARF). The Director would create a spending plan to fund the identified improvements in consultation with vessel owners, operators, and users of ARF and identify a timeline required to implement necessary upgrades.

BACKGROUND AND NEEDS

ARF is made up of 17 oceanographic vessels and other submersibles/autonomous vehicles that are owned by NSF, the Office of Naval Research (ONR), and U.S. universities and laboratories.¹ All ARF ships, regardless of ownership, are operated by U.S. universities and laboratories, also referred to as the University–National Oceanographic Laboratory System (UNLOS). The

¹ “The U.S. Academic Research Fleet,” University–National Oceanographic Laboratory System, <https://www.unols.org/us-academic-research-fleet-0>.

National Oceanic and Atmospheric Administration (NOAA) and ONR are the principal Federal agencies that support ARF through interagency partnerships. NSF supports approximately 70 percent of the total usage of the fleet, while the remaining cost is divided proportionally among the vessel users based on usage.²

ARF has aging infrastructure and equipment, with the youngest vessel built in 2014 and the oldest in 1976.³ While each vessel has individually undergone various retrofits throughout the years to stay seaworthy, vessel operators have cybersecurity and telecommunications concerns. Maritime cybersecurity is a growing concern for commercial and governmental vessel operators, with ARF facing an additional degree of risk based on its research when compared to other maritime vessels transiting the same areas.⁴ In addition, these vessels may conduct sensitive research on behalf, or to the benefit of, the U.S. Government and military, including as part of the Naval Research Enterprise.⁵

SUMMARY OF PROVISIONS

S. 318 would do the following:

- Require the NSF Director to submit a plan to Congress to improve the cybersecurity and telecommunications of ARF, including assessments of current telecommunications and networking needs, current cybersecurity needs, cost of necessary equipment, and a timeline for the upgrades.
- Require the NSF Director to consult the users, operators, and owners of the vessels to provide a spending plan to cover the costs of upgrades.
- Consider network access for telemedicine, scientific instrumentation, ship-based maintenance, aligning international standards, cybersecurity training, and requirements for controlled or classified information on the vessel for the plan.

LEGISLATIVE HISTORY

S. 318 was introduced on January 29, 2025, by Senator Padilla (for himself and Senator Sullivan) and was referred to the Committee on Commerce, Science, and Transportation of the Senate. On May 21, 2025, the Committee met in open Executive Session and, by voice vote, ordered S. 318 reported favorably with an amendment (in the nature of a substitute).

H.R. 1223, a bill similar to S. 318, was introduced on February 12, 2025, by Representative Fong (for himself and Representative Stevens) and was referred to the Committee on Science, Space, and Technology of the House of Representatives. Representatives Obernolte, McBride, Riley, and Begich were later added as cosponsors. On April 29, 2025, that Committee met in open Executive Session and, by voice vote, ordered H.R. 1223 reported favorably

² Ibid.

³ “UNOLS Designated Vessels,” University–National Oceanographic Laboratory System, <https://www.unols.org/ships-facilities/unols-vessels/unols-designated-vessels/unols-designated-vessels>.

⁴ “Domestic Ports Division: Cyber Security,” U.S. Coast Guard, <https://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Inspections-Compliance-CG-5PC-/Office-of-Port-Facility-Compliance/Domestic-Ports-Division/cybersecurity/>.

⁵ U.S. Department of the Navy, Office of Naval Research, *The Naval Research Enterprise: UNOLS-AICC*, 2021, <https://www.unols.org/sites/default/files/2021%20AICC%20Winter%20Meeting%20Appendix%20IX%20-%20ONR%20Update.pdf>.

without amendment. On May 20, 2025, H.R. 1223 passed the House by a vote of 412–11.

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S. 3943, the ANCHOR Act, was introduced on March 14, 2024, by Senator Padilla (for himself and Senator Sullivan) and was referred to the Committee on Commerce, Science, and Transportation of the Senate. Senators Peters, Whitehouse, and Murkowski were additional cosponsors. On July 31, 2024, the Committee met in open Executive Session and, by voice vote, ordered S. 3943 reported favorably without amendment.

H.R. 7630, a House bill related to S. 3943, was introduced on March 12, 2024, by Representative Garcia (CA) (for himself and Representative Stevens) and was referred to the Committee on Science, Space, and Technology of the House of Representatives. On March 20, 2024, that Committee met in open Executive Session and, by voice vote, ordered H.R. 7630 reported favorably without amendment. On September 23, 2024, H.R. 7630, as amended, passed the House by voice vote.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

S. 318, ANCHOR Act			
As ordered reported by the Senate Committee on Commerce, Science, and Transportation on May 21, 2025			
By Fiscal Year, Millions of Dollars	2025	2025-2030	2025-2035
Direct Spending (Outlays)	0	0	0
Revenues	0	0	0
Increase or Decrease (-) in the Deficit	0	0	0
Spending Subject to Appropriation (Outlays)	0	*	not estimated
Increases <i>net direct spending</i> in any of the four consecutive 10-year periods beginning in 2036?	No	Statutory pay-as-you-go procedures apply?	No
		Mandate Effects	
Increases <i>on-budget deficits</i> in any of the four consecutive 10-year periods beginning in 2036?	No	Contains intergovernmental mandate?	No
		Contains private-sector mandate?	No
* = between zero and \$500,000.			

S. 318 would require the National Science Foundation (NSF) to develop a plan to improve cybersecurity and telecommunications aboard vessels within the U.S. Academic Research Fleet, which currently includes 17 vessels that collect data for marine research. The NSF would be required to report to the Congress on the plan within one year of enactment.

Using information about the costs of creating similar plans, CBO estimates that developing the plan would cost the NSF less than \$500,000 over the 2025–2030 period. Any related spending would be subject to the availability of appropriated funds.

The CBO staff contacts for this estimate are Emma Uebelhor and Willow Latham-Proença. The estimate was reviewed by H. Samuel Papenfuss, Deputy Director of Budget Analysis.

PHILLIP L. SWAGEL,
Director, Congressional Budget Office.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

Number of Persons Covered

S. 318 would direct NSF to develop a plan to improve the cybersecurity and telecommunications capabilities of ARF. Additionally, non-Federal vessel owners and operators and users of ARF could be implicated in the spending plan created in S. 318.

Economic Impact

S. 318 is not anticipated to have an adverse impact on the Nation's economy.

Privacy

S. 318 is not anticipated to impact the personal privacy of individuals.

Paperwork

The Committee does not anticipate an increase in paperwork burdens for private individuals or businesses resulting from the passage of this legislation. NSF would be required to write a report on cybersecurity and telecommunications network improvements that is sent to Congress. Additionally, non-Federal vessel owners and operators and users of ARF could be implicated in the creation of a spending plan for the improvement of cybersecurity and telecommunications of ARF.

CONGRESSIONALLY DIRECTED SPENDING

In compliance with paragraph 4(b) of rule XLIV of the Standing Rules of the Senate, the Committee provides that no provisions contained in the bill, as reported, meet the definition of congressionally directed spending items under the rule.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title

This section would provide that the bill may be cited as the “Accelerating Networking, Cyberinfrastructure, and Hardware for Oceanic Research Act” or the “ANCHOR Act”.

Section 2. Definitions

This section would define the terms “U.S. Academic Research Fleet”, “Director”, and “oceanographic research vessel”.

Section 3. Plan to improve cybersecurity and telecommunications of U.S. Academic Research Fleet

This section would require the NSF Director, not later than 1 year after enactment, to submit a plan to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives to improve the cybersecurity and telecommunications of ARF.

This section would require the plan to include an assessment of current telecommunications, networking, and cybersecurity needs, an assessment of the necessary equipment and personnel needed to carry out its mission, an assessment of upgrade timelines, and a plan to adopt common solutions and agreements at a single facility. It would also require the NSF Director to consult with non-Federal users and vessel owners to create a spending plan to cover the costs of the recommended changes.

Lastly, this section would require the NSF Director to consider the network capabilities necessary to meet the scientific mission needs of each class of vessel within the fleet, consult with the Director of Cybersecurity and Infrastructure Security Agency and the Director of the National Institute of Standards and Technology regarding cybersecurity recommendations and consider providing network access for communications, telemedicine, data risk mitigation, maintenance, scientific research, and other relevant purposes.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee states that the bill as reported would make no change to existing law.

