



Committee on Transportation and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Sam Graves
Chairman

Jack Ruddy, Staff Director

Rick Larsen
Ranking Member

Katherine W. Dedrick, Democratic Staff Director

June 16, 2023

SUMMARY OF SUBJECT MATTER

TO: Members, Subcommittee on Coast Guard and Maritime Transportation
FROM: Staff, Subcommittee on Coast Guard and Maritime Transportation
RE: Subcommittee Hearing on “*Review of the National Academy of Sciences Report ‘The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs’*”

I. PURPOSE

The Subcommittee on Coast Guard and Maritime Transportation of the Committee on Transportation and Infrastructure will hold a hearing on Wednesday, June 21, 2023, at 10:00 a.m. ET in 2253 Rayburn House Office Building to receive testimony on “*Review of the National Academy of Sciences Report ‘The Coast Guard’s Next Decade: An Assessment of Emerging Challenges and Statutory Needs’*.” The Subcommittee will hear testimony from the United States Coast Guard (Coast Guard or Service), the Chair of the National Academy of Sciences Report, and the United States Government Accountability Office (GAO).

II. BACKGROUND

The *Elijah E. Cummings Coast Guard Authorization Act of 2020* directs the Coast Guard to enter into an agreement with the National Academy of Sciences to prepare an assessment on emerging issues that require Coast Guard action, a description of the potential limitations of current Coast Guard authorities to address current or emerging issues, and recommendations on adjustments or additions to Coast Guard authorities that could be made to address deficiencies.¹

The National Academy of Sciences formed a 12-person committee and consulted with current and former members of the Coast Guard, industry stakeholders, and others to develop the conclusions outlined in the report, which was completed in May 2023.²

¹ William M. Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283, 134 Stat. 4672, *available at* <https://www.congress.gov/bill/116th-congress/house-bill/6395/text>.

² NATIONAL ACADEMIES OF SCIENCES, ENGINEERING AND MEDICINE, COAST GUARD’S NEXT DECADE: AN ASSESSMENT OF EMERGING CHALLENGES AND STATUTORY NEEDS 186 (2023), *available at* <https://nap.nationalacademies.org/catalog/27059/the-coast-guards-next-decade-an-assessment-of-emerging-challenges-and-statutory-needs> [hereinafter NAS Report].

III. STUDY FINDINGS

Challenges Over the Next Decade

Over the coming decade, a changing environment, technological innovation, and global strategic competition are predicted to be the most significant external factors impacting the Coast Guard's critical missions³. Based on these external drivers, below are the ten foreseeable developments identified by the report that will impact the Coast Guard's missions over the next decade:⁴

- 1) **Autonomous Systems:** As these systems become more common place, the Coast Guard is expected to confront challenges regarding the regulation of these systems and account for crewing requirements that may differ from traditional vessels. Additionally, the Coast Guard must develop best practices to prevent nefarious uses and cyber intrusions, and account for additional workforce training, development, and certifications required to operate these systems. The *Coast Guard Authorization Act of 2023*, which has been marked up by the Committee on Transportation and Infrastructure, directs the Coast Guard to conduct a report on the establishment of an unmanned systems capabilities office and establishes a National Advisory Committee on Autonomous Systems to support the Coast Guard's efforts in this area.⁵
- 2) **Cybersecurity Risk:** Cyber intrusions pose a serious safety risk to our Nation's ports and vessels under way, and also threaten to disrupt the supply chain. One of America's largest ports, the Port of Los Angeles, faces approximately 40 million cyber-attacks per month.⁶ Given the disastrous potential posed by such threats, the Coast Guard needs to treat the risk of cyber-attack with the same vigilance as physical attacks, by improving its capability to protect against them. Congress and the Committee are directing the Coast Guard to better prepare for cyber-attacks by passing critical legislation. For example, last year, the *Don Young Coast Guard Authorization Act of 2022* directed the Coast Guard to make available public tools and resources to help maritime stakeholders confront cyber threats.⁷ Additionally, the *Coast Guard Authorization Act of 2023* strengthens the ability of the Coast Guard to confront cyber-attacks at ports.⁸
- 3) **Commercial Spaceflight Operations:** As commercial space operations increase, the Coast Guard will have a greater responsibility in mitigating maritime navigational risks around launch zones. For example, the regulation of autonomous maritime technology will be crucial as companies such as SpaceX, expand their use of

³ NAS REPORT, *supra* note 2, at 36.

⁴ *Id.* at 35

⁵ Coast Guard Authorization Act of 2023, H.R. 2741, 118th Cong. (2023), *available at* <https://www.congress.gov/bill/118th-congress/house-bill/2741/text>.

⁶ Sam Fenwick, *Cyber-attacks on Port of Los Angeles have doubled since pandemic*, BBC NEWS, (July 22, 2022), *available at* <https://www.bbc.com/news/business-62260272>.

⁷ James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, Pub. L. No. 117-263, 136 Stat. 4024, *available at* <https://www.congress.gov/bill/117th-congress/house-bill/7776/text>.

⁸ Coast Guard Authorization Act of 2023, *supra* note 5.

autonomous vessels as platforms to collect boosters upon reentry. Given this, it is possible that as those safety zones expand outside of the United States' exclusive economic zone, the Coast Guard could be confronted with new challenges regarding the regulation of maritime activity around launch and recovery zones.⁹

- 4) **Offshore Wind Energy:** The Biden Administration has set a goal of deploying 30 gigawatts of offshore wind-generated electricity by 2030.¹⁰ As these projects develop, increased vessel traffic arising from offshore wind construction and operations may impact the safety of navigation. The Coast Guard will be charged with balancing the needs of multiple maritime stakeholders while simultaneously ensuring that safe navigation is preserved for all users. To date, the Coast Guard has failed to adequately move forward its Atlantic Coast Port Access Route Study – a key milestone in ensuring safe navigation in the area. The *Coast Guard Authorization Act of 2023* directs the Coast Guard to finalize its rulemaking on the study by the end of the year.¹¹
- 5) **Aquaculture:** While the National Oceanic and Atmospheric Administration (NOAA) has the primary federal role in regulating aquaculture, the Coast Guard has the responsibility to deploy aids to navigation around aquaculture facilities.¹² As the number of aquaculture facilities grows over the coming years, the Coast Guard will be charged with assessing the impacts to navigational safety in a greater number of areas.
- 6) **The Arctic Domain:** Vessel traffic through the Arctic region is expected to increase, straining the Service's ability to conduct its navigation, safety, environmental and other critical missions.¹³ The Coast Guard represents the United States within international bodies governing the region and, as the only government entity with icebreaking capabilities, also serves as the Nation's first responder in the region.¹⁴ The Coast Guard suffers from inadequate infrastructure in the region, including its icebreaking capability.¹⁵ The Coast Guard is currently in a recapitalization campaign to replace its aged icebreaker fleet with three Polar Security Cutters.¹⁶ Additionally, the *Coast Guard Authorization Act of 2023* authorizes the Coast Guard to acquire a commercially available icebreaker to help the Service fill the capability gap until new ice breakers come online towards the end of the decade.¹⁷ The report notes that the

⁹ NAS REPORT, *supra* note 2, at 78.

¹⁰ FACT SHEET: BIDEN-HARRIS ADMINISTRATION CONTINUES TO ADVANCE AMERICAN OFFSHORE WIND OPPORTUNITIES, THE WHITE HOUSE (2023), *available at* <https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/29/fact-sheet-biden-harris-administration-continues-to-advance-american-offshore-wind-opportunities/>.

¹¹ Coast Guard Authorization Act of 2023, *supra* note 5.

¹² NAS REPORT, *supra* note 2, at 92.

¹³ *Id.* at 94.

¹⁴ *Id.* at 95.

¹⁵ *Id.* at 95.

¹⁶ CONG. RESEARCH SERV., RL34391, COAST GUARD CUTTER PROCUREMENT: POLAR SECURITY CUTTER: BACKGROUND AND ISSUES FOR CONGRESS (2023), *available at* <https://crsreports.congress.gov/product/pdf/R/RL3439>.

¹⁷ Coast Guard Authorization Act of 2023, *supra* note 5.

Coast Guard is also expected to require increased infrastructure in the region, as well as better navigational charts to increase domain awareness in the region.¹⁸

- 7) **Ship Decarbonization:** As the maritime sector works to meet its decarbonization goals, the industry is exploring various methods and fuels. The report notes that to date, no single approach to reducing carbon in the maritime sector has shown signs of dominance.¹⁹ As industry explores and adopts various approaches to address ship decarbonization, the Coast Guard will be challenged with evaluating and regulating these new decarbonization methods.²⁰ The Coast Guard will also be challenged with recruiting and training personnel capable of conducting the necessary reviews and promulgating the necessary guidance for these new technologies.²¹
- 8) **Disasters:** Over the coming decade, the report projects that severe weather is expected to increase in severity and frequency, straining Coast Guard capabilities to adequately respond to natural and environmental disasters.²² This will require the Coast Guard to account for increased demands for its services and capabilities, including the ability to surge operations.²³ The Coast Guard will also have to account for impacts to its own facilities and strengthen resiliency.
- 9) **Migration:** In the coming years, the Coast Guard will be further strained by increasing migration numbers. The report found that in 2021, the number of undocumented migrants seeking to enter the United States through maritime routes was twice the number attempting to enter in 2019 and 2020.²⁴ The Coast Guard will need to continue to monitor major migration triggers and maintain a surge capability to shift resources to address migration surges.
- 10) **Illegal, Unreported, and Unregulated (IUU) Fishing:** The report notes that illegal fishing accounts for up to 20 percent of the global fish catch, harming local fisheries and fisherman who are operating lawfully.²⁵ The Coast Guard currently monitors and addresses illegal fishing, but will need to improve its data collection, work with Non-Governmental Organizations, and deploy assets to areas where they will be most effective.

Recommendations

In general, the Coast Guard was found to have broad statutory authority, which sufficiently empowers the Service to carry out its mission. However, with respect to autonomous systems and limitations on spaceflight related safety zones, expected developments over the

¹⁸ NAS REPORT, *supra* note 2, at 95.

¹⁹ *Id.* at 105.

²⁰ *Id.* at 105.

²¹ *Id.* at 111.

²² *Id.* at 111.

²³ *Id.* at 114.

²⁴ *Id.* at 117.

²⁵ *Id.* at 120.

coming years may necessitate changes to current statutes. Below is a summary of proposed legislative changes outlined in the report:²⁶

Likely Action	Summary Assessment
Autonomous systems: <i>Regulatory</i>	Amend statutory manning requirements (or authorize waivers to them) to allow the Coast Guard to approve, as appropriate, fully autonomous vessels.
Commercial spaceflight activity: <i>Mitigating and responding to risks</i>	Weigh statutory and international law limitations on the Coast Guard's authority to establish safety zones that are binding on foreign-flagged vessels in the exclusive economic zone.
Cybersecurity risk: <i>Regulatory updates</i>	Consider possible amendments to the Maritime Transportation Security Act and the Magnuson Act to parallel recent changes to the Ports and Waterways Safety Act clarifying that the Coast Guard has authority to address cyberincidents.

The report also recognizes that as mission demand in the Coast Guard grows, statutory authority alone is insufficient without the Service having adequate assets, infrastructure, and workforce to carry out its critical missions.²⁷ Aside from aging assets, a growing challenge is the Coast Guard's personnel deficit, which is predicted to continue in the coming years, putting further strain on the Service' ability to effectively conduct operations.

Finally, as the Service continues to confront an ever-developing environment of changing threats and evolving mission capabilities, the report recommends that the Service strengthen its strategic foresight and planning by implementing best practices, which will aid the Coast Guard in continuing to succeed in its critical missions.²⁸

IV. WITNESSES

Admiral Steve Poulin
Vice Commandant
United States Coast Guard

Dr. Cary Coglianese
Chair
National Academy of Sciences Report
'The Coast Guard's Next Decade: An Assessment of Emerging Challenges and Statutory Needs'

²⁶ *Id.* at 161.

²⁷ NAS REPORT, *supra* note 2, at 167.

²⁸ *Id.* at 168.

Ms. Heather MacLeod
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