

NAVIGATING NUCLEAR: A LEADING LIGHT FOR NUCLEAR MARITIME APPLICATIONS

Date: 7 July 2026

US Policy and Regulatory Alert

By: Tison A. Campbell, Michael S. Heard Snow

Commercial nuclear maritime is ramping up with key developments from the US government and industry setting the stage for future progress. Key to the success of the industry will be a robust government regulatory foundation, industry technical standards, and a well-prepared nuclear maritime workforce.

GOVERNMENT LEADERSHIP

The US Coast Guard (USCG), US Maritime Administration (MARAD), and US Nuclear Regulatory Commission (NRC) are collaborating to provide the regulatory foundation for commercial deployment of nuclear maritime technology. As stated by MARAD Administrator Stephen M. Carmel:

To successfully introduce [small modular reactors]¹ we must view this through a system-transition lens rather than just as a technology demonstration. We are seeking critical insights on how the government can help reduce systemic uncertainty, align regulatory structures, and enable the market conditions necessary for private capital and operators to scale these groundbreaking technologies.

The American Bureau of Shipping (ABS)² has been leading efforts in the United States to bring industry and government leaders together to identify and build strategies to address barriers to deployment of nuclear propulsion and floating nuclear energy facilities, including through the US Center for Maritime Innovation (USCMI).³ At the most recent USCMI event held on 23 June 2026, the USCG and NRC announced the signing of a new memorandum of understanding (MOU) to “facilitate[] the reliable and efficient licensing and regulation” of civilian maritime nuclear projects.⁴ Under the MOU, the NRC has primary responsibility for nuclear reactor licensing and radiological safety and is the lead federal agency under the National Environmental Policy Act (NEPA), while the USCG is responsible for vessel and maritime facility inspection, maritime safety and security, and related certifications and will serve as a cooperating agency under NEPA. The NRC and USCG agreed to coordinate inspections, reviews, and licensing schedules on a concurrent basis, sharing information and jointly developing milestones from the pre-application stage onward.

The MOU builds on the NRC's 14 May 2026 public meeting which outlined the Commission's plans for a white paper that will describe how its existing licensing frameworks would apply to floating nuclear power plants and nuclear propulsion.⁵ At that meeting, the NRC highlighted items it was considering for inclusion in the white paper, including the following:

- Hazard identification and analysis (e.g., effects of wave-induced motion).
- Classification of structures.
- Systems and components.
- Conditions expected during port entry and operations.
- Security.
- Liability.⁶
- Emergency planning.⁷

Meanwhile, the US Navy is taking the lead in demonstrating the flexible capabilities of nuclear-powered ships by testing the ability to power Norfolk Naval Base, the largest naval base in the world, from the nuclear-powered aircraft carrier *USS Gerald R. Ford*.⁸ The potential for nuclear vessels to provide power to local ports rather than pulling from local grids could be a key component of the commercial viability of nuclear-powered shipping by providing an additional revenue stream for vessels and reducing the electric power infrastructure and energy needs of ports.⁹

These agencies will be at the inaugural meeting of the International Atomic Energy Agency's (IAEA) Atomic Technologies Licensed for Applications at Sea (ATLAS) initiative hosted by the United States in Washington, DC, in August 2026. This initiative will provide an international push to “support the maritime industry’s exploration of small modular reactors (SMRs) to power civilian ships and to provide offshore energy, as operators consider alternative fuels and seek to strengthen long-term energy security.”¹⁰

INDUSTRY DEVELOPMENTS

On 5 June 2026, ABS announced it had issued an approval in principle for “the integration of a nuclear reactor into a cargo vessel propulsion system developed by the Massachusetts Institute of Technology (MIT), HD Korea Shipbuilding and Offshore Engineering (HD KSOE), and the Capital Maritime Group.”¹¹ An approval in principle is granted during the early conceptual design phase to “assist the client in demonstrating project feasibility to its project partners and regulatory bodies.”¹² ABS commented that the approval in principle “highlights the value of collaboration with key stakeholders in advancing promising commercial nuclear technologies.”¹³ Concurrently in Europe, Lloyd's Register announced its approval in principle for a nuclear car carrier concept powered by a molten salt reactor.¹⁴

PREPARING THE NUCLEAR MARITIME WORKFORCE

On the workforce development side, Maine Maritime Academy (MMA) received a US\$1,000,000 grant from the US Department of Energy to establish a Center for Education and Training of the Nuclear Merchant Mariner and is reviving its nuclear engineering technology major in the fall 2027 semester.¹⁵ MMA has a long nuclear maritime history, previously offering the nuclear engineering technology major in 1960 with many of its graduates going on to serve on the NS Savannah, the world's first nuclear-powered merchant ship.

K&L GATES IS HERE TO HELP

To realize the full potential of commercial nuclear for maritime purposes, companies will need to navigate complex government regulations and technical standards, as well as ensure a robust and ready workforce. As the nuclear and maritime industries coordinate the commercial deployment of these technologies, our experienced nuclear and maritime team, dating back to the birth of the industry with the NS Savannah, holds a deep understanding of these key agencies and the industry and is well positioned to support the deployment of these key technologies.

FOOTNOTES

¹ Small modular reactors (SMRs) are advanced nuclear reactors that have a power capacity of up to 300 megawatt electric per unit. Joanne Liou, *What are Small Modular Reactors (SMRs)?*, INT'L ATOMIC ENERGY AGENCY (Sep. 13, 2023) <https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs>.

² ABS acts as secretariat of the USCFI. ABS, founded in 1862, provides classification, engineering, and certification services for marine and offshore assets. *About Us*, AM. BUREAU SHIPPING, <https://www.eagle.org/en/about-us.html> (last visited June 25, 2026).

³ The USCFI was established by the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 to support the study, research, development, assessment, and deployment of emerging marine technologies and practices related to the maritime transportation system.

⁴ U.S. COAST GUARD & NUCLEAR REGUL. COMM'N, MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. COAST GUARD AND THE NUCLEAR REGULATORY COMMISSION REGARDING CIVILIAN MARITIME NUCLEAR PROJECTS (2026), <https://www.nrc.gov/docs/ML2609/ML26096A081.pdf>.

⁵ See NUCLEAR REGUL. COMM'N, PUBLIC MEETING ANNOUNCEMENT, REGULATORY CONSIDERATIONS FOR MARITIME NUCLEAR APPLICATIONS (2026), <https://www.nrc.gov/docs/ML2612/ML26125A152.pdf>.

⁶ The federal government provides indemnification for commercial nuclear reactors in the United States through the Price-Anderson Act, although the act's indemnification process was not designed to cover maritime licensed systems. The Price Anderson Act was specifically updated to acknowledge the NS Savannah, the world's first commercial nuclear cargo and passenger ship that operated from 1962 to 1972. See 42 U.S.C. § 2014(t) ("The term 'person indemnified' means ...with respect to any nuclear incident in connection with the design, development, construction, operation, repair, maintenance, or use of the nuclear ship Savannah....").

⁷ See Nuclear Regul. Comm'n, Presentation on Regulatory Considerations for Maritime Nuclear Applications (May 14, 2026), <https://www.nrc.gov/docs/ML2612/ML26125A205.pdf>.

⁸ *U.S. Navy to power Norfolk base using aircraft carrier*, AM. NUCLEAR SOC'Y (May 27, 2026) <https://www.ans.org/news/2026-05-27/article-8074/us-navy-to-power-norfolk-base-using-aircraft-carrier/>.

⁹ The European Maritime Safety Agency estimates that an average cargo ship can draw as much as 3.5 megawatts while connected to shore power.

¹⁰ Press Release, IAEA, IAEA to Launch ATLAS: Pioneering Nuclear Solutions for Shipping and Offshore Energy,

Washington, August 26-27, 2026 (June 1, 2026), <https://www.iaea.org/newscenter/pressreleases/iaea-to-launch-atlas-pioneering-nuclear-solutions-for-shipping-and-offshore-energy-washington-august-26-27-2026>.

¹¹ *ABS Grants Approval for Nuclear Reactor Integration in Vessel Design Developed Through MIT Maritime Consortium*, AM. BUREAU OF SHIPPING (June 5, 2026), <https://ww2.eagle.org/en/newsdetail.23fc0c4a.html>.

12 Am. Bureau of Shipping, Approval in Principle And Novel Concept Classification, <https://ww2.eagle.org/content/dam/eagle/innovation-and-technology/technology-cutsheets/AIP-Novel-Concept-Cutsheet.pdf>.

¹³ *Id.*

¹⁴ Press Release, Lloyd's Reg., LR backs nuclear car carrier concept at Posidonia (June 2, 2026), <https://www.lr.org/en/knowledge/press-room/press-listing/press-release/2026/lr-backs-nuclear-car-carrier-concept-at-posidonia/>.

¹⁵ See Andy Webster, *Maine Maritime Academy announces 1st-in-the-nation nuclear engineering major*, BANGOR DAILY NEWS (May 25, 2026), <https://www.bangordailynews.com/2026/05/25/hancock/hancock-education/castine-maine-maritime-academy-nuclear-engineering-major/>.

KEY CONTACTS



TISON A. CAMPBELL
PARTNER

WASHINGTON, DC
+1.202.778.9323
TISON.CAMPBELL@KLGATES.COM



MICHAEL S. HEARD SNOW
ASSOCIATE

WASHINGTON, DC
+1.202.778.9318
MICHAEL.HEARDSNOW@KLGATES.COM

This publication/newsletter is for informational purposes and does not contain or convey legal advice. The information herein should not be used or relied upon in regard to any particular facts or circumstances without first consulting a lawyer. Any views expressed herein are those of the author(s) and not necessarily those of the law firm's clients.