



DEPARTMENT OF TRANSPORTATION

Maritime Administration

[Docket Number MARAD-2026-0729]

Request for Information: Development of a Commercially Viable System-Centric Small Modular Reactor Concept for Deployment in the Marine Transportation System

AGENCY: Maritime Administration (MARAD), Department of Transportation (DOT).

ACTION: Notice and request for comments.

SUMMARY: MARAD is seeking information from the public to support the development of a U.S.-built scalable, repeatable, commercially viable, system-centric, small modular reactor (SMR) and their deployment within the marine transportation system. This Request for Information (RFI) for a single vessel or technology demonstration seeks public feedback on proficient system architecture, including liability frameworks, insurance pathways, port acceptance, workforce development, and standards integration for vessel deployment.

DATES: Written comments including all supporting information and documents, are requested on or before [INSERT DATE 90 DAYS FROM DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: Interested persons are encouraged to submit comments, identified by “SMR RFI” by any of the following methods:

- Federal eRulemaking Portal: www.regulations.gov. Search using the DOT Docket Number MARAD-2026-0729 and follow the instructions for submitting comments.
- Mail/Hand-Delivery/Courier: Docket Management Facility; U.S. Department of Transportation, 1200 New Jersey Avenue, S.E., Room W12-140, Washington, D.C. 20590. If you would like to know that your comments reached the facility, please enclose a stamped, self-addressed postcard or envelope. The Docket Management Facility is open 9:00 a.m. to 5:00 p.m., Monday through Friday, except on Federal holidays.

Note: We recommend that you include your name and mailing address, an email address, or a telephone number in the body of your document so that we can contact you if we have questions regarding your submission. If you submit your inputs by mail or hand-delivery, they must be submitted in an unbound format, no larger than 8 1/2 by 11 inches, single-sided, suitable for copying and electronic filing. All submissions received should include the agency name and docket number. All comments received will be posted without change to the docket at www.regulations.gov, including any personal information provided.

Confidential Business Information: Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments to this RFI contain commercial or financial information that is customarily treated as private and that you actually treat as private, it is important that you clearly designate the submitted comments as CBI and submit the information directly to the person identified in the section titled **FOR FURTHER INFORMATION CONTACT** below and take the following steps: (1) Mark each page of the submission containing CBI as “Confidential”; (2) send, along with the original submission, a second copy of with the CBI removed or redacted; and (3) explain why the information you are submitting is CBI. Unless you are notified otherwise, MARAD will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this RFI. Any comment submissions received that are not specifically designated as CBI will be placed in the public docket.

Privacy Act: Anyone can search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). For information on DOT’s compliance with the Privacy Act, please visit <https://www.transportation.gov/privacy>.

Electronic Access and Filing: As required by 5 U.S.C. 553(b)(4), this document, and all comments may be viewed online through the Federal eRulemaking portal at

www.regulations.gov. An electronic copy of this document may also be downloaded by accessing the Office of the Federal Register's home page at: www.federalregister.gov.

FOR FURTHER INFORMATION CONTACT: Sydney Plante, Office of the Maritime Administrator, via electronic mail at maradpressooffice@dot.gov or call 202-366-4105. For those who use a telecommunications device (TDD) please call the Federal Information Relay Service (FIRS) at 1-800-877-8339 to contact the above individual during business hours. The FIRS is available twenty-four hours a day, seven days a week, to leave a message or question. You will receive a reply during normal business hours. If you have questions about viewing the Docket, call Docket Operations, telephone: (800) 647-5527.

SUPPLEMENTARY INFORMATION: Historical maritime transitions—from sail to steam, wood to iron, and conventional propulsion to new energy systems—have occurred throughout our nation's history. Durable adoption of SMR propulsion technology, a modern-day maritime transition, has great potential not only as a result of engineering breakthroughs, but also when the U.S. Government helps reduce systemic uncertainty, align regulatory structures, and enable market conditions that allow private capital and operators to scale new technologies.

MARAD views the potential introduction of SMR propulsion through a system-transition lens. MARAD's role, in coordination with interagency partners, is intended to support alignment, transparency, and integration across existing authorities rather than to direct technology selection or development activities. Federal participation typically supports risk stabilization, standards coordination, infrastructure integration, diplomatic engagement, and strategic signaling to reduce uncertainty and enable commercially led deployment. As such, the purpose of this RFI is to investigate if recent advancements in SMR technology and novel concept development are usable, scalable, and can be made commercially viable.

Implementation of these roles will occur in coordination with the Department of Energy; the Nuclear Regulatory Commission; the Department of Homeland Security, including the U.S.

Coast Guard; the Department of War; and other relevant agencies, as appropriate, consistent with applicable financial and budgetary frameworks and statutory authorities.

Consistent with longstanding United States maritime practice, any future actions informed through this RFI would be pursued in alignment with applicable international standards, protocols, and development processes, including engagement through the International Maritime Organization and relevant International Convention for the Safety of Life at Sea (a/k/a “SOLAS”) frameworks.

While this RFI focuses on SMR concepts as the current reference architecture for maritime nuclear propulsion, responses may address alternative configurations that meet comparable safety, scalability, and commercial integration objectives consistent with the system-first principles outlined herein. Consistent with this approach, the purpose of this RFI is to inform people how government actions can enable a coherent approach to the production of maritime nuclear technologies that industry can scale commercially.

Global competitors are advancing the integration of nuclear propulsion into the broader maritime industry, including shipyards, ports, insurance regimes, and logistics networks, which places the U.S. at a strategic disadvantage in the absence of domestic SMR development.

Request for Information

This RFI seeks industry insight into building a coherent U.S. system capable of long-term commercial adoption, while providing global leadership. Specifically, the purpose of this RFI is to investigate if advancements in SMR technology and novel concept development are usable, scalable, and can be made commercially viable. This includes integration of SMR-propelled vessels into international regulatory regimes. Responses should emphasize system architecture, scalability, safety, and commercial viability. Submissions should not exceed 30 pages, excluding appendices. MARAD is requesting information on the following issues:

1. Initial Topics

- Identify pathways-technical, regulatory, or other-toward repeatable deployment rather than one-off demonstrations;
- Address requirements needed to develop commercially viable maritime nuclear technology, including those requirements which may need alignment between ports, insurance, workforce, and other regulatory regimes;
- Assess system integration across shipbuilding, operations, and logistics networks;
- Support development of commercially viable propulsion choices driven by lifecycle economics;
- Inform governance structures enabling scalable replication of SMR-powered vessels; and
- What lessons can be learned from the development and construction of nuclear-powered vessels that could inform us how a commercial nuclear-powered vessel could be economically viable.

2. Notional Development Roadmap

The following progressive framework is provided solely to support industry and stakeholder discussion:

- Early regulatory alignment, liability architecture, and maturation of U.S. SMR concepts.
- Port-based deployments and operational demonstrations to foster stakeholder support.
- Integration into strategic sealift new construction platforms currently under development or other government owned new construction as prototype platforms to validate operational capability and to provide actual operating information/data to further commercial risk analysis and enhance public perception of the technology.

3. System-First Principles

MARAD seeks information and insight into the following specific areas:

- Liability architecture and insurability before hull construction;
- Port access and standards alignment prior to deployment;
- Workforce pathways developed ahead of vessel launch;

- Replication and commercial scheduling viability as primary success metrics; and
- Integration into existing maritime logistics systems.

4. Technical Scope

Reactor Technology and Integration. Safe and secure SMR architectures emphasizing modularity and maintainability, including proposed solutions for the back end of the fuel cycle.

Integration of SMR-Powered Vessels into Shipyard Operations. Concepts demonstrating modular production and integration with U.S. shipyard capacity. The emphasis on U.S. construction, both ships and SMRs, is critical.

Legal and Regulatory Pathways. Approaches enabling predictable licensing timelines and standardized approval pathways for SMR-related technologies. This includes determining whether existing civilian nuclear frameworks with other countries may allow for cooperation to develop clear documentation, inspection, and classification regimes.

Liability, Insurance, and Financial Architecture. Frameworks enabling routine financing and underwriting of nuclear-powered commercial vessels.

Ports, Standards, and International Acceptance. Inspection regimes, vessel classification rules, and strategies for shaping international norms.

Workforce and Operational Model. Seafarer Certification Including standards for U.S. Coast Guard merchant mariner credentialing and competence requirements for endorsements for vessels with nuclear powered propulsion.

Commercial Integration and Market Pull. Trade lanes and cargo flows demonstrating economically repeatable deployment.

5. Strategic Themes

MARAD is particularly interested in concepts that treat nuclear propulsion as commercial infrastructure rather than a technology demonstration, and that demonstrate clear pathways to scalable, repeatable maritime operations.

6. Specific Information Requests and Questions for Industry and the Public

- Please provide any input on the core technology and innovative features of the SMR concept and how such concept would differ from existing solutions?
- What key advantages would a particular concept of a modular reactor design offer in terms of safety, efficiency, and environmental impact compared to current technologies?
- Please describe how a SMR concept is or can become sufficiently scalable and adaptable for various maritime applications, including potential integration with existing infrastructures?
- How does a SMR concept enable repeatable deployment across multiple vessels or classes?
- What liability or insurance structures are required before commercial financing becomes viable?
- What port and vessel legal or regulatory barriers must be resolved prior to deployment?
- How can workforce pipelines be established to prepare our Nation to develop a sufficient number of trained workers to build and crew SMR-powered vessels?
- What system-level risks could prevent replication even if a single vessel succeeds?
- How does a SMR concept integrate into existing logistics networks and cargo markets?
- Please identify any other critical factors, risks, or ecosystem dependencies crucial for MARAD and other agencies to consider in supporting the development and deployment of commercially viable SMR-powered vessels in our marine transportation system.
- Please provide recommendations for law and regulations or sub-regulatory guidance that could be revised, rescinded, or promulgated to support, incentivize, or ensure legal and regulatory consistency for the SMR maritime nuclear propulsion concept from Department of Energy; the Nuclear Regulatory Commission; the Department of Homeland Security, including the U.S. Coast Guard; the Department of War; and other relevant agencies, as appropriate, consistent with applicable financial and budgetary

frameworks and statutory authorities.

Docket Appendix

MARAD encourages all interested parties to review the appendix posted on the docket:

The Appendix titled “Illustrative Maritime SMR Concept Development Context” provides a conceptual framework to help respondents better understand the relationship between key components in the maritime SMR concept, guiding their submissions in addressing relevant challenges and opportunities.

Follow-on Steps and Stakeholder Engagement

Following this RFI, MARAD intends to host a series of engagement activities open to the public, which may include technical exchanges, listening sessions, public workshops, or public meetings. These engagements are intended to clarify broad challenges, support international dialogue, and ensure transparent participation prior to the response deadline.

By Order of the Maritime Administrator.

T. Mitchell Hudson, Jr.,

Secretary, Maritime Administration.

[FR Doc. 2026-09070 Filed: 5/6/2026 8:45 am; Publication Date: 5/7/2026]