Maersk joins study of nuclear-powered box ships

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Monday, August 19, 2024

Nuclear power could help A.P. Moller-Maersk, the world's second-largest container line, continue to lower vessel emissions.

Danish shipping line A.P. Moller-Maersk is participating in a joint assessment to research the regulatory feasibility of a nuclear-powered container ship.

Vessel classification society Lloyd's Register and Core Power, a maritime nuclear energy specialist, announced that they signed a joint development project agreement to investigate requirements for updated safety rules along with improved operational and regulatory understanding that is needed for the application of nuclear power in container shipping.

It's the latest foray into greener, alternative fuel by Maersk, the world's second-largest container shipping line. In 2011-12, the company cooperated with the U.S. Navy to test algae biofuel. In 2018, the company announced its intention to be carbon-neutral by 2050 – a deadline later moved up to 2040. In September 2023, Maersk launched the Laura Maersk, a feeder vessel powered by methanol. The Laura Maersk has capacity for 2,100 twenty-foot equivalent units. The company currently has 24 methanol-capable ships on order.

Ocean shipping accounted for the second-highest levels of carbon dioxide emissions in the global commercial transportation sector in 2022, according to data compiled by Statista.

The partners in a release said the study "will provide insight for members of the maritime value chain who are exploring the business case for nuclear power to help shape their fleet strategy towards achieving net zero greenhouse gas emissions."

Nuclear power could play a key role as part of “a multi-fuel pathway to decarbonizing the maritime industry” and could help meet emission reduction targets set by the International Maritime Organization.

Lloyd’s participation would aid in developing standards for insuring commercial nuclear-powered ships operating in ports, waterways and nearshore environments.

“Nuclear power holds a number of challenges related to safety, waste management, and regulatory acceptance across regions, and so far, the downsides have clearly outweighed the benefits of the technology,” said Ole Graa Jakobsen, head of fleet technology for Maersk, in the release. “If these challenges can be addressed by development of the new, so-called fourth-generation reactor designs, nuclear power could potentially mature into another possible decarbonization pathway for the logistics industry 10 to 15 years in the future. Therefore, we continue to monitor and assess this technology, along with all other low emission solutions.”

Nuclear-powered civilian vessels have plied global waters in the past. The first was the Soviet icebreaker Lenin launched in 1957. The U.S.-built SS Savannah, which operated from 1962-72, was the first of a total four nuclear cargo vessels in service.