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Opportunities for the Nuclear Industry: Requirements for Marine nuclear system

Abstracts

The 28th session of the United Nations Climate Change Conference (COP28) marked a significant milestone in recognizing nuclear energy as a key component in combating climate change. In the global energy landscape, small modular reactors are increasingly recognized for their capacity to generate carbon-neutral energy. Consequently, various industries are contemplating the integration of nuclear power plants, particularly emphasizing propulsion systems and power generation ships within the marine environment. It is currently underway across various industrial sectors on the integrated industries utilizing the inexpensive and efficient electricity and high-temperature heat produced by nuclear power plants. The incorporation of nuclear power plants into marine systems demands extensive deliberation. There exists an urgent need for discussions and proposals concerning additional international construction and operational regulations tailored to the marine context. In this study, we aim to discuss the regulations and requirements for nuclear power from the perspective of shipbuilders, as well as to clarify aspects that must be considered from the viewpoints of both ship classification societies and shipowners.

Keywords: Small modular reactors, marine environment, regulations, requirements

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