

18<sup>th</sup> July 2024  
Nihon Shipyard Co., Ltd.

**Execution of Memorandum of Understanding for Joint Study of  
Ammonia Fueled Bulk Carriers among 4 parties**

Nihon Shipyard Co., Ltd., (headquartered in Chiyoda-ku, Tokyo; Kiyoshi Higaki, President; hereinafter "Nihon Shipyard") announced today that, together with ITOCHU Corporation (hereinafter "ITOCHU"), Maritime and Port Authority of Singapore (hereinafter "MPA"), and Nippon Kaiji Kyokai have executed a Memorandum of Understanding ("MoU") regarding a joint study for the design and safety specifications of ammonia-fueled ships which are under development by Nihon Shipyard and partners ("Ammonia-Fueled Ships").

Ammonia is advancing as a viable marine fuel solution for the decarbonization of the maritime sector. The discussion for a specification of Ammonia-Fueled Ship with governmental body related to an operation of Ammonia-Fueled Ship is essential for a social implementation of Ammonia-Fueled Ship. As one of parties of the MoU, MPA, the government agency overseeing the world's busiest bunkering hub, will review and provide their views to the designs of the Ammonia-Fueled Ships to ensure their safe operations.

This MoU is based on the premise that 200,000 deadweight ton class bulk carriers will be built by Nihon Shipyard with an ammonia dual-fueled engine by applying Alternative Design Approval<sup>1</sup> process in accordance with the "Integrated project for development and social implementation of ammonia-fueled ships" which was adopted under the "Green Innovation Fund Project / Development Project for Next-Generation Ships / Development of Ammonia-Fueled Ship", a project publicly offered by New Energy and Industrial Technology Development Organization (NEDO) in October 2021. The necessary clarifications of the specification for the Ammonia-Fueled Ship to carry out ammonia bunkering in Singapore will be conducted among parties of this MoU, for the commercialization of Ammonia-Fueled Ships.

Nihon shipyard will continue to contribute to the realization of a sustainable society through the provision of Eco-Friendly Vessels by utilizing its environmental reduction technologies.

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<sup>1</sup> *Alternative Design Approval is to prove that the ship is as safe as a ship built in accordance with existing international regulations and to obtain approval from the competent authorities when the ship is designed without any international guidelines.*