



April 11, 2024
NS United Kaiun Kaisha, Ltd.

Execution of Memorandum of Understanding for Joint Development of Ammonia-Fueled Bulk Carriers among 6 parties

NS United Kaiun Kaisha, Ltd. (NS United) announced today that, together with Nihon Shipyard Co., Ltd. (Nihon Shipyard), MAN Energy Solutions (MAN), Mitsui E&S Co., Ltd. (Mitsui E&S), Kawasaki Kisen Kaisha, Ltd. (K-Line), and Itochu Corporation (ITOCHU), NS United has executed a Memorandum of Understanding (“MOU”) for joint development in order to commercialize ammonia fueled ships.

Ammonia is advancing as a key zero-emission marine fuel solution and it will greatly contribute to Greenhouse Gas (GHG) emissions reduction if ammonia can be commonly used as a marine fuel. The development and commercialization of ammonia dual fueled engine on which ammonia fuel is used for a primary fuel (Ammonia-Fueled Engine) is essential for widespread use of ammonia fueled ship (“Ammonia-Fueled Ship”). In Particular, ensuring the safety against toxicity of ammonia and confirming stable operation at sea are important milestones on the road to social implementation.

This MOU is based on the premise that 200,000 deadweight ton class bulk carriers to be built by Nihon Shipyard equipped with Ammonia-Fueled Engines, which is under development by MAN, will be built as a “pilot project” prior to commercialization, and that the necessary operational data will be collected after delivery of ships, for the commercialization of Ammonia-Fueled Engines and Ammonia-Fueled Ships in cooperation with other parties involved.

The execution of this MOU is an important milestone for the implementation of Ammonia-Fueled Ships, a new challenge for the maritime industry, and also an important step toward our environmental goal of “GHG Net zero by 2050”.

We will proceed with the development of the Ammonia-Fueled Engines and Ships based on this MOU, and aim to begin its social implementation once it is ready in accordance with the “Integrated project for development and social implementation of ammonia fueled ships” which was adopted to 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[※].

NS United strives to strengthen initiatives for environmental conservation as set forth in the Medium-Term Business Plan “FORWARD 2030 II”, aiming to improve our corporate value and contribute to the realization of a sustainable society.

※: [Joint Project on “Development of Ammonia-Fueled Ship” was Adopted as Green Innovation Fund | News | NS United Kaiun Kaisha, Ltd.](#)



【Key Roles】

Partners	Key Roles
MAN	Design and development of Ammonia Fueled Engine and verification after delivery of 200,000 deadweight ton class bulk carriers equipped with Ammonia-Fueled Engines
Nihon Shipyard	Design and construction of 200,000 deadweight ton class bulk carriers equipped with Ammonia-Fueled Engines
ITOCHU K-Line NS United	Crew development and ship management for operation of 200,000 deadweight ton class bulk carriers equipped with Ammonia-Fueled Engines and collection of operation data
Mitsui E&S	Manufacturing Ammonia Fueled Engine and Design and production of related system
ITOCHU	Information sharing for ammonia fuel supply

(Photo) MOU execution Celemony

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