

Ammonia Fueled Bulk Carrier Obtained AiP from Classification Society ClassNK

Nihon Shipyard Co., Ltd., (headquartered in Chiyoda-ku, Tokyo; Yoshinori Maeta, President & CEO; hereinafter "Nihon Shipyard") announced today that, together with ITOCHU Corporation (headquartered in Minato-ku, Tokyo; Keita Ishii, President & COO; hereinafter "ITOCHU"), Mitsui E&S Machinery Co., Ltd. (headquartered in Chiyoda-ku, Tokyo; Ichiro Tanaka, President & CEO), Kawasaki Kisen Kaisha, Ltd. (headquartered in Chiyoda-ku, Tokyo; Yukikazu Myochin, President & CEO), and NS United Kaiun Kaisha, Ltd. (headquartered in Chiyoda-ku, Tokyo; Kazuo Tanimizu, President), has obtained an Approval in Principle (hereinafter "AiP") from Classification Society, Nippon Kaiji Kyokai (hereinafter "ClassNK") for the design of an Ammonia-fueled ship (200,000 deadweight ton class bulk carrier).

The Ammonia-fueled vessel (hereinafter "the Vessel"), which recently received an AiP, was developed by Nihon Shipyard as the part of the "Integrated Project for the Development and Social Implementation of Ammonia Fueled Ships" which was jointly adopted by "the Green Innovation Fund Project / Development for Next-Generation Ships / Development of Ammonia Fueled Ships" of the New Energy and Industrial Technology Development Organization (NEDO). At this time, there are no international guidelines for the use of Ammonia as marine fuel, so Nihon Shipyard and partners are looking toward obtaining Alternative Design Approval (Note 1) for the shipbuilding of the Vessel. A risk assessment (Hazard Identification Study – "HAZID") was recently conducted on the safety of using Ammonia as marine fuel, and the basic design of the Vessel was evaluated as "capable of ensuring the same level of safety as Vessels operating with existing fuel.

The acquisition of the AiP is an important milestone for the implementation of Ammonia-fueled Vessels, a new challenge for the maritime industry, As a Shipyard, We aim to improve efficiency by 40% compared with 2008 by 2030, Reduction of total emission by 50% by 2050 compare with 2008, and achieve GHG emission PHASE-OUT (Zero emission) as early as possible in this century, the early construction of Vessels using Ammonia Fuel as promising Zero-Emission Fuel which is one of the important steps.

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.



(Note 1) 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.