19 August 2024
Nippon Yusen Kabushiki Kaisha
Nihon Shipyard Co., Ltd.

World's First Machine Room Safety Accreditation for Ammonia Fueled Ammonia Gas Carrier to Be Granted by ClassNK

-- Realizing safe operation of ammonia-fueled ships through the highest safety measures --

The world's first accreditation* for "Machinery Room Safety for Ammonia" (MRS) will be granted by ClassNK for the ammonia-fueled medium gas carrier (AFMGC) currently being developed by a consortium that includes Nippon Yusen Kabushiki Kaisha (NYK) and Nihon Shipyard Co., Ltd. (NSY). MRS is Class notation** demonstrating a ship is equipped with excellent ammonia safety measures for the machinery room. MRS also confirms the vessel meets the highest safety measures under the guidelines for ammonia-fueled ships.

Background

The consortium to which NYK and NSY belong is aiming for AFMGC delivery by the end of November 2026. The vessel development is under the Green Innovation Fund Project*** by Japan's New Energy and Industrial Technology Development Organization (NEDO). One of the biggest challenges in the ship's development is to overcome toxicity in the machinery room. It is essential to have measures to keep the crew safe, such as a design to avoid ammonia leakage from piping and tanks. To overcome toxicity, the consortium has conducted a risk assessment reviewed by ClassNK, risk assessments and safety measures from a user's point of view led by NYK's engineers, and a study of the ship's specifications to realize the world's highest level of safety.

Overview of MRS Notation

The minimum design requirements for using ammonia safely on board are regulated in the ammonia-fueled ship guidelines issued by ClassNK. To receive an MRS notation, it is necessary to satisfy the optional functional requirement to minimize personal exposure to leaking ammonia in the machinery room. This notation shall be granted only to ships that meet the functional requirement and secure the highest level of safety.

Future Developments

The consortium continues vessel development, the creation of operation manuals for actual operations, etc., aiming for delivery by November 2026. Moreover, we aim to further improve safety for ammonia-fueled ships through technical know-how and achievements, including MRS accreditation, with the collaboration of consortium members.

Vessel Overview

Type	40,000 m³ type ammonia fueled ammonia gas carrier
Planned delivery date	November 2026
Shipbuilder	Japan Marine United Corporation, Ariake Shipyard
Vessel image	

Company Overviews and Contacts

Name	Overview	Contacts
Nippon Yusen Kabushiki Kaisha (NYK)	Headquarters: Tokyo Representative: Takaya Soga, President Website: https://www.nyk.com/english/	Media Relations Team, Corporate Communication Group Email: NYKJP.ML.MEDIA@nykgroup.com
Nihon Shipyard Co., Ltd. (NSY)	Head office: Tokyo President: Kiyoshi Higaki Website: https://www.nsyc.co.jp/en/	Human Resources & General Affairs Group Telephone: +81-45-212-8200; Email: info@nsyc.co.jp

* The “world’s first” claim is as of August 2024 according to research by ClassNK.

** Class Notation

Class notations are affixed to classification characters when the ship is registered, and the provisions of special or additional requirements or the relaxation of conditions are applied.

*** Green Innovation Fund Project

A 2 trillion-yen NEDO fund created to significantly accelerate current efforts such as structural transformation of the energy and industrial sector and innovation through bold investment toward carbon

neutrality by 2050. The fund provides continual support from R&D and demonstration to social implementation for up to 10 years for companies that share ambitious and concrete goals with the public and private sectors and tackle them as management issues. NEDO mainly provides support in 14 priority areas for which action plans are being formulated in the green growth strategy.