PRESS RELEASE

2026-09-15

Kawasaki Kisen Kaisha, Ltd. (“K” LINE)
Mitsui O.S.K. Lines, Ltd. (MOL)
Nippon Yusen Kabushiki Kaisha (NYK Line)
Nihon Shipyard Co., Ltd. (NSY)
MILES Co., Ltd.
Mitsubishi Shipbuilding Co., Ltd.

Approval in Principle (AiP) Acquired for Standard Low-Pressure Liquefied CO_2 Carrier toward Realization of CCS Business in Japan

-- First Successful Result for a Standard Design Framework Utilizing MILES --

- ***AiP acquired after completing risk assessment of CO_2 handling operations specific to low-pressure liquefied CO_2 carriers and establishing a safety-focused design policy***
- ***Utilizes the MILES-based standard design framework to ensure stable construction and supply of liquefied CO_2 carriers in Japan while improving economic efficiency***

Tokyo, September 15, 2026 – Six companies, including Kawasaki Kisen Kaisha, Ltd. (“K” LINE), Mitsui O.S.K. Lines, Ltd. (MOL), Nippon Yusen Kabushiki Kaisha (NYK Line), Nihon Shipyard Co., Ltd. (NSY, a ship design and sales joint venture between Imabari Shipbuilding Co., Ltd. and Japan Marine United Corporation), Mitsubishi Shipbuilding Co., Ltd., a part of Mitsubishi Heavy Industries (MHI) Group, and MILES Co., Ltd. (a joint venture among related companies for the design of liquefied CO_2 (LCO_2) carriers and low-carbon fueled ships) have acquired Approval in Principle (AiP)[*1] for a low-pressure LCO_2 carrier from the Japanese classification society Nippon Kaiji Kyokai (ClassNK) following completion of a risk assessment for LCO_2 handling operations. A ceremony to present the AiP was held on September 15 at Gastech 2026 in Bangkok, Thailand.

Demand for LCO_2 carriers is expected to grow as a series of CCS (Carbon dioxide Capture and Storage) projects commence in Japan, requiring a means of transporting CO_2 captured in Japan to storage sites. Based on a Memorandum of Understanding[*2] announced on December 1, 2025, the six companies have been advancing a standard design framework that utilizes MILES for LCO_2 carriers and alternative-fuel ships. Their goals include the stable domestic construction and supply of LCO_2 carriers, the standardization of LCO_2 carriers, and the establishment of a CCS value chain. This AiP marks the first concrete achievement through the MILES framework.

The six companies conducted a risk assessment (Hazard Identification Study “HAZID”)[*3] for LCO_2 handling operations on a low-pressure 42,000m^3 class LCO_2 carrier, which is being standardized. The risk assessment drew on the extensive experience of “K” LINE, MOL, and NYK Line in low-pressure gas carrier

operations to consider the risks unique to low-pressure LCO_2. A design policy stressing safety was established based on the findings, leading to the acquisition of the AiP. This policy will be reflected in the standard design of LCO_2 carriers and will serve as an important foundation for supporting CCS business development in Japan. A common design platform for a standard vessel is expected to provide workload savings and greater efficiency in design and construction going forward, strengthening construction capabilities.

“K” LINE group is promoting a variety of initiatives to support the decarbonization of its own operations and society in accordance with its long-term environmental policy, ““K” LINE Environmental Vision 2050”.
In the field of CCS, “K” LINE has accumulated extensive expertise through pioneering liquefied CO_2 transportation projects, including the provision of three liquefied CO_2 carriers to Northern Lights, which is developing the world's first full-scale CCS value chain, followed by construction and charter agreement of two additional vessels.
Building on these efforts, “K” LINE will continue to contribute to the development of the CCS value chain not only through liquefied CO_2 transportation but also through any related new technologies including Floating Storage and Injection Units (FSIU).

AiP presentation ceremony at Gastech 2026

ClassNK
NIPPON KAIJI KYOKAI

Document No. 26HE01374
Date: 15 September 2026

APPROVAL IN PRINCIPLE

42,000m3 Standard LCO2 Carrier
developed by
MILES Co., Ltd.
Mitsubishi Shipbuilding Co., Ltd.
Nihon Shipyard Co., Ltd.
Kawasaki Kisen Kaisha, Ltd.
Mitsui O.S.K. Lines, Ltd.
Nippon Yusen Kabushiki Kaisha

THIS IS TO CERTIFY THAT Approval in Principle is granted to MILES Co., Ltd., Mitsubishi Shipbuilding Co., Ltd., Nihon Shipyard Co., Ltd., Kawasaki Kisen Kaisha, Ltd., Mitsui O.S.K. Lines, Ltd., Nippon Yusen Kabushiki Kaisha.

The AiP is for the design concept of 42,000m3 Standard LCO2 Carrier, and it is based on "Rules for the Survey and Construction of Steel Ships, Part N: Ships carrying Liquefied Gases in Bulk".

The documents/drawings specified in the annex to this letter have been reviewed and it is verified that the conceptual design of the ship is feasible for the intended application.

Conditions on this approval are set out in the Annex to letter 26HE01374.
For final approval of the ship, a complete set of documentation is to be approved by the Society in accordance with relevant class rule.

(Kenichi Kishimoto)
General Manager of Hull Department
NIPPON KAIJI KYOKAI

AiP certificate

Notes

**1: Approval in Principle (AIP) indicates that a certification body has reviewed the basic design of the subject*

equipment, and confirmed that it meets technical requirements and relevant safety standards. The inspection of the basic design for the LCO_2 carrier was conducted in accordance with ClassNK's "Rules For the Survey and Construction of Steel Ships (Part N Ships Carrying Liquefied Gases in Bulk)".

This is the first AiP received for a standard design scheme utilizing MILES, and for the 42,000m^3 class ship type.

Ref. Approval in Principle (AiP) Acquired from Two Classification Societies for Low-Pressure Type Liquefied CO2 Carriers undergoing Pursuit of Standardization toward Realization of Large-Scale International Transportation from 2028 onwards | CCS business | News Releases | Kawasaki Kisen Kaisha, Ltd. (September 18, 2024)

**2: Memorandum of Understanding Concluded on Establishing a Standard Design Framework Utilizing MILES for Liquefied CO2 Carriers and Alternative Fuel Ships | Sustainability News | News Releases | Kawasaki Kisen Kaisha, Ltd. (December 1, 2025)*

**3: A Hazard Identification Study (HAZID) is a safety assessment method for plants and systems to identify potential risks (hazards) in design concepts, and evaluate the extent of those risks and the effectiveness of mitigation measures.*