

**Approval in Principle (AiP) Acquired from Classification Society  
for Low-Pressure Type Coastal Liquefied CO<sub>2</sub> Carrier**

**-- Target set on Realizing Domestic CCS Business --**

- ◆ Low-pressure Type Liquefied CO<sub>2</sub> carriers are under development in pursuit of transportation from domestic emission sites to base site for overseas shipping, or domestic storage sites
- ◆ Preparation is accelerating toward early market launch of LCO<sub>2</sub> carriers, including applications in future CCS projects underway by the Japanese Government

Nippon Gas Line Co., Ltd. (President: Yasuhiro Muramatsu, Head Office : Matsuyama City, Ehime Prefecture. Hereinafter NGL) and Mitsubishi Shipbuilding Co., Ltd.(President Shin Ueda: Head Office Minato-ku, Tokyo. Hereinafter Mitsubishi Shipbuilding), a part of Mitsubishi Heavy Industries (MHI) group, jointly acquired Approval in Principle (AiP)<sup>\*1</sup> from Nippon Kaiji Kyokai (President: Hiroaki Sakashita, Head office: Chiyoda-ku, Tokyo. Herein after ClassNK), for low-pressure type liquefied CO<sub>2</sub> (LCO<sub>2</sub>) carrier to serve in coastal transportation.

Demand for LCO<sub>2</sub> carriers is expected to glow in tandem with CCS (carbon dioxide capture and storage) involving marine transport of CO<sub>2</sub> captures in Japan to storage sites. NGL and Mitsubishi Shipbuilding received AiP certification from ClassNK following a jointly conducted study on low-pressure type coastal LCO<sub>2</sub> carriers, assuming their use for transport from small-scale CO<sub>2</sub> capture sites mainly in the Seto Inland Sea area to base site toward overseas storage sites.

The concept study has been conducted in conjunction with the FY2024 “Japanese Advanced CCS Projects” carried out by the Japan Organization for Metals and Energy Security (JOGMEC) (commissioned by eight companies: Japan Petroleum Exploration Co., Ltd., JGC Holdings Corporation, Kawasaki Kisen Kaisha Ltd., JFE Steel Corporation, Mitsubishi Gas Chemical Co., Inc., Mitsubishi Chemical Corporation, The Chugoku Electric Power Co., Inc., and Nippon Gas Line Co., Ltd.).

**Related web link:** [Commission a CCS engineering design work in Sarawak, Malaysia as the “Japanese Advanced CCS Project” in FY2024](#)

The project calls for the launch of a sea transport scheme using highly versatile small-sized LCO<sub>2</sub> carriers to consolidate CO<sub>2</sub> collected in Japan for overseas shipping. The project aims to enhance business efficiency through shipment scale expansion. The LCO<sub>2</sub> carrier newly acquiring AiP certification is expected to serve as a powerful means of sea transport supporting scheme.

- ※1 Approval in Principle (AiP) indicates that the certification body has reviewed the basic design and approved is as satisfying technical requirements and safety criteria. The assessment was conducted in accordance with the ICG Code<sup>※2</sup> and Class NK classification rules applicable to vessels transporting liquified gas in bulk.
- ※2 ICG Code (official name: International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk) is an international regulation stipulating conditions to ensure that safety of vessels that transport liquified gasses (LCO<sub>2</sub>, LNG, etc.) in bulk.



**ClassNK**  
NIPPON KAIJI KYOKAI

Document No. 25HE00147  
Date: 3 February 2025

**APPROVAL IN PRINCIPLE**

**Coastal LCO2 Carrier**  
developed by  
**MITSUBISHI SHIPBUILDING CO., LTD.**  
**NIPPON GAS LINE CO., LTD.**

THIS IS TO CERTIFY THAT Approval in Principle is granted to MITSUBISHI SHIPBUILDING CO., LTD. and NIPPON GAS LINE CO., LTD.

The AIP is for the design concept of Coastal 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 25HE00147.  
For final approval of the ship, a complete set of documentation is to be approved by the Society in accordance with relevant class rule.

  
( Akio Usami )  
General Manager of Hull Department  
NIPPON KAIJI KYOKAI



Form CLS (21.01)

**AiP Certification**

For inquiries regarding this matter, please contact  
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