

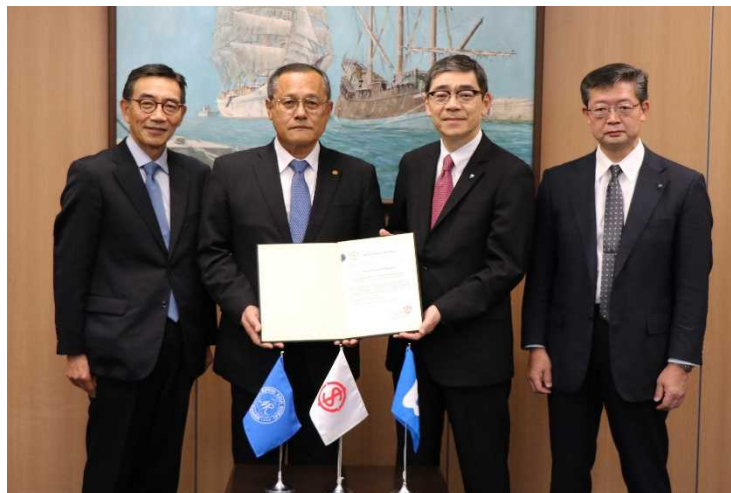


12th December 2019

NS UNITED KAIUN KAISHA, LTD.
Kazuo Tanimizu, President
(For Inquiry) Toru Kihira, Executive Officer
(Phone) +81-3-6895-6326

Joint Approval in Principle (AiP) for Design of LNG-Fueled Capesize Bulker

NS United Kaiun Kaisha, Ltd. (“the Company”) has received, jointly with Imabari Shipbuilding Co., Ltd. (“Imabari Shipbuilding”), an AiP (Approval in Principle) for concept design of LNG-fueled capesize bulk carrier from Nippon Kaiji Kyokai (ClassNK).



AiP certificate award ceremony at the Company

With adoption by the International Maritime Organization (IMO) of the regulations based on the Energy Efficiency Design Index (EEDI), regulations will be further strengthened to expect Phase 3 compliance from 2025. Under the new energy-efficiency regulations, shipping companies will be required to use vessels that achieve CO₂ emission volumes that are 30% less than the reference line. In regard to the design behind this AiP, the Company aims to demonstrate even greater consideration for the environment and meet the new regulations by developing an LNG-fueled vessel that places a smaller burden on the environment, which we consider to be a realistic approach.

In applying the AiP, the Company and Imabari Shipbuilding that has a track record of building dual-fuel type LNG vessels, have jointly proceeded with careful examination and compiled a draft for the 210,000 dwt bulk carrier.

The most notable feature of this design is its dual-tank setup at the stern using Type C LNG tanks, which are considered to be cost competitive and comparatively easily installed. This has made it possible to build an LNG-fueled vessel without significant changes to the conventional vessel's basic design. The design adopts a low-pressure dual-fuel engine for the main engine, which enables to use gas that has naturally vaporized (BOG: boil-off gas) from the LNG tanks in the main engine without any waste. This design therefore reduces the burden on the environment and lowers running costs.

This basic design can achieve CO₂ emission volumes that are 30% less than the reference line as required under EEDI Phase 3 by the IMO.

Environmental protection a top priority, the Company continues to observe requirements in a swift manner and positively pursue research for effective solutions.



Image of the LNG-fueled capesize bulk carrier