

To all members of the press

July 31, 2024
Tokyo Boeki Holdings Corporation

**TB Global Technologies
Towards a decarbonized society
Ship-to-Ship Bunkering Boom for Fuel Ammonia
world's first to Obtains AiP from ClassNK**

On 31 July, TB Global Technologies (TBG), a group company of Tokyo Boeki Holdings Corporation, and Nippon Yusen Kabushiki Kaisha (NYK) received the world's first Approval in Principle (AiP) from ClassNK for the bunkering boom, a device for the Ship-to-Ship supply of ammonia fuel, which had been jointly developed by the two companies.

* As of 31 July 2024



AiP certificate issued by ClassNK

■ **TBG's innovative bunkering Boom for Fuel Ammonia.**

The Emergency Release System (ERS) developed by TBG takes full account of the toxicity of ammonia and ensures safety. The bunkering boom for ammonia fuels* equipped with this device was the first bunkering boom in the world to receive an AiP from ClassNK, following a drawing review and a certification process for new technologies that partly refers to the technical certification guidelines. The new bunkering boom significantly reduces the amount of ammonia spatter. It ensures the safety of the surrounding area when an Ammonia Bunkering Vessel** (ABV) and an Ammonia Fuel Vessel (AFV) are separated in an emergency.

NYK provided TBG with design data for in-house developed ABV, on which it designed this bunkering boom. In addition, a multifaceted risk assessment, including advice on safety and operations based on NYK's expertise in operating LNG bunkering vessels (LBV) and ammonia handling, resulted in the technical feasibility being assessed by ClassNK, leading to the acquisition of an AiP.

*Ship-to-ship fuel transfer equipment installed on bunkering ships

** Dedicated vessels refueling ships at sea.



Image of ammonia bunkering vessel (3D model)
Courtesy of NYK



Ammonia bunkering boom (3D model)

■ Prospects

The bunkering boom for ammonia fuels, for which the AiP was awarded this time, will be installed on ABV, which are expected to become popular from the late 2020s. TBG will continue to develop safe and environmentally friendly products and contribute to the realization of a decarbonized society.

■ Decarbonization of marine fuels is an unavoidable social challenge.

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) states that "As one of the world's leading shipping and shipbuilding nations, it is important for Japan to take the lead in developing and promoting international measures to reduce GHG emissions to actively contribute to international efforts to combat global warming while ensuring the sustainable development of maritime trade and the maritime industry",* and the International Maritime Organization (IMO) has set a target of "zero GHG emissions from international shipping by 2050"**. In this global context, ammonia is attracting attention as a next-generation marine fuel with low environmental impact. Ammonia is a clean fuel that does not emit CO₂, but it is toxic, so safety measures are important.

* 'Decarbonization of ships' by Ministry of Land, Infrastructure, Transport and Tourism, Maritime Bureau on Dec. 27, 2021
<https://www.mlit.go.jp/common/001447792.pdf>

** International shipping agreed to a "zero GHG emissions by around 2050" target, July 11, 2023
[001619435.pdf \(mlit.go.jp\)](https://www.mlit.go.jp/001619435.pdf)

TB-NIIGATA TB Global Technologies, <https://www.tbgttech.co.jp/en/>

For inquiry

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About Tokyo Boeki Group



Tokyo Boeki Group consists of Tokyo Boeki Holdings Corporation (27F, 2-2-1 Kyobashi Edogrand, Chuo-ku, Tokyo; President: Hideshige Tsubouchi), a holding company, and 16 unique operating companies, 17 in total, both domestic and overseas and celebrated the 76th anniversary of its founding in 1947.

We aim to become a group that continues to provide new value to the world by synergistically enhancing the presence and competitiveness of the entire group while each group company conducts independent corporate activities, based on the "spirit of management participated by all" as the core value, which is the common spirit of the group. Tokyo Boeki Group will continue to innovate under a free and vigorous culture, without fear of change, and contribute to the realization and sustainability of a better society in which all stakeholders can lead safe and secure lives, economies, and social activities.

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