Oct. 21, 2024
Tokyo Metropolitan Government
Nippon Yusen Kabushiki Kaisha
UNI-X NCT CORPORATION
MITSUI E&S Co., Ltd.
Iwatani Corporation

Japan's First Cargo Handling Operation Using Hydrogen Fuel Cell Crane at Oi Container Terminal

The Tokyo Metropolitan Government's Bureau of Port and Harbor, Nippon Yusen Kabushiki Kaisha (hereinafter "NYK"), UNI-X NCT CORPORATION, MITSUI E&S Co., Ltd (hereinafter "MITSUI E&S"). and Iwatani Corporation have installed a fuel cell (hereinafter “FC”)[1] in a rubber-tired gantry crane (hereinafter “RTG”),[2] and started cargo handling operations using an RTG fueled by hydrogen for the first time in Japan.[3] By widely utilizing the results of this project, companies will promote the use of hydrogen in cargo handling machinery and promote the decarbonization of the Port of Tokyo.

1 Details of implementation

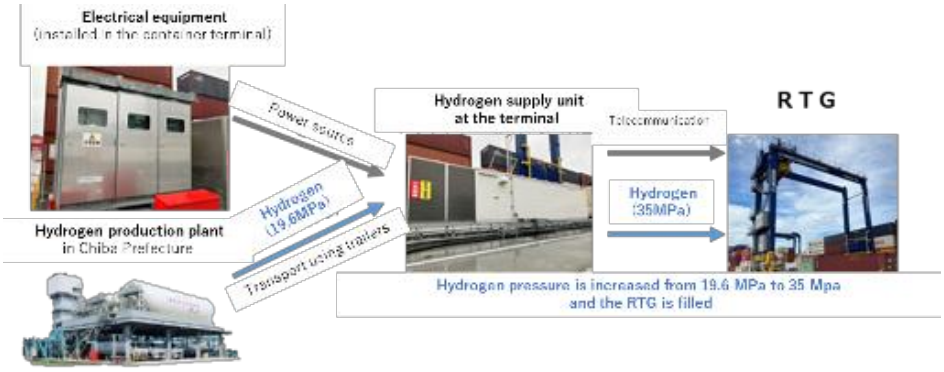
（1）Conversion of cargo handling machinery from a diesel generator to an FC

By replacing the diesel engine generator of the RTG used at the Oi Container Terminal with an FC generator, it can be verified whether the RTG using hydrogen fuel has the same cargo handling capacity as before the conversion while using hydrogen as fuel, which does not emit CO_2 during power generation.

（2）Establishment of a hydrogen supply system for cargo handling machinery

Hydrogen is transported from the hydrogen production plant in Chiba

Prefecture to Oi Container Terminal using trailers. At the terminal, the hydrogen pressure is increased by using a hydrogen supply unit to fill the RTG tank.



（3）Cargo handling operations using cargo handling machinery (including hydrogen filling for cargo handling machinery)

Companies will conduct cargo handling operations using the RTG that has been converted to use an FC generator, collect and analyze data, and examine issues with terminal operations, countermeasures, etc.

2　Place of implementation

5-2, Yashio 2-chome, Shinagawa-ku, Tokyo

（Oi Container Terminal berths 6 and 7 in the NYK Tokyo Container Terminal）

3　Duration of cargo handling operations

From Monday, October 21, 2024 to the end of March, 2025 (tentative)

1. Fuel cells are equipment used to generate electricity through a chemical reaction involving hydrogen and oxygen.

2. Rubber-tired gantry cranes are cranes with legs with tires on both ends that can move without rails installed on the ground.

3. As of October 16, 2024, based on research by MITSUI E&S