News Release

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Hitachi Zosen Corporation

July 18, 2023

Received an order for a green methanol-compatible dual fuel test engine ～ Fuel conversion technologies for marine engines that help reduce greenhouse gas emissions from international marine transport ～

Hitachi Zosen Corporation has recently received an order from MAN Energy Solutions SE (hereinafter, "MAN", Germany) for one dual-fuel test engine (4S90ME-C10.5-LGIM) capable of running on green methanol.

It will be manufactured by Hitachi Zosen Marine Engine Co., Ltd. (hereinafter, "HZME"), a consolidated subsidiary of Hitachi Zosen, in Nagasu-cho, Tamana-gun, Kumamoto Prefecture, Japan.

[Methanol-compatible dual-fuel test engine CG model]

MAN has signed agreements to convert S90ME-C type of heavy oil-fired engines installed on ships owned by several major shipping companies into dual-fuel engines with green methanol-compatible engines.

Modification requires technical testing with a test engine on land. This test engine is the first S90ME-C green methanol-compatible dual-fuel engine to be tested on land for MAN. The test engine is scheduled for completion in September 2024, after which MAN and HZME will jointly conduct land tests through the end of 2024.

S90ME-C type engine is mainly used as the main engine for propulsion of large containerships, and more than 300 vessels still in service are equipped with S90ME-C type engines. Based on the "Well to Wake*" principle, green methanol is a fuel that can reduce greenhouse gas (GHG) CO2 emissions by more than 90% compared to heavy oil. Converting the main propulsion engine to a dual-fuel engine and using green methanol as fuel can make a significant contribution to the carbon neutralization of marine transportation and the reduction of environmental impact.

This order is the result of our positive relationship with MAN for more than half a century and the highly regarded track record of Hitachi Zosen and HZME that have manufactured approximately 3,000 units as MAN's licensee.

In 2018, IMO (International Maritime Organization) adopted GHG Reduction Strategy, which aims to halve GHG emissions from the international marine transport sector by 2050 and reduce emissions to zero as early as this century. However, in July 2023, it increased positively the target and newly adopted the strategy to achieve net-zero emissions by around 2050.

Marine engines play a vital role in reducing GHG, and besides the shift from conventional heavy oil to LPG, LNG and methanol-based engines, there is an urgent need to develop technology-fueled by ammonia and other Power to X fuels engines, which will emit less GHG.

In order to provide highly competitive next-generation ships to the marine transportation industry and lead the world in environmental technologies, Hitachi Zosen and HZME will actively develop technologies for the fuel-conversion of marine engines and contribute to the international shipping and shipbuilding industries.

※It is a concept used to evaluate emissions in the shipping industry and refers to the entire process from Well to Wake, i.e., from fuel production to use on board, and the sum of all emissions generated in the process.

The test engine ordered this time is outlined below.

1.Client : MAN Energy Solutions SE (Germany)
2.Order received by : Hitachi Zosen Corporation
3.Manufactured by : Hitachi Zosen Marine Engine Co., Ltd.
4.Product model : 4S90ME-C10.5-LGIM × 1
5.Delivery : September 2024.