

NYK Line
 MTI Co., Ltd.
 Oshima Shipbuilding Co., Ltd.
 Terasaki Electric Co., Ltd.
 Daihatsu Diesel MFG Co., Ltd.

Demonstration Test Conducted for "Hz Navi System" Energy-Saving Technology for Marine Generators

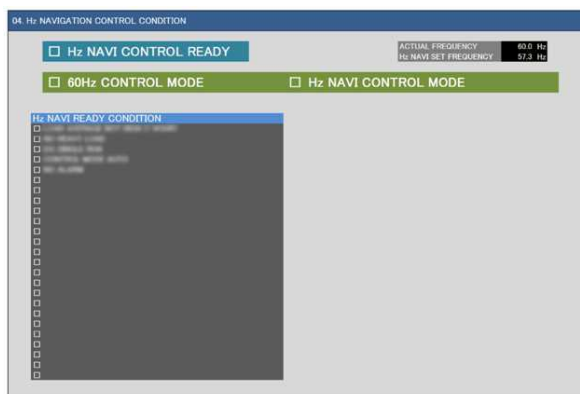
～ Cooperating to realize a sustainable system after confirming energy savings of approx. 10% ～

A demonstration test of the Hz Navi System ("Hz Navi"), which can produce energy-saving effects by lowering the frequency of the generator according to optimal specifications, was conducted on the NYK-operated bulk carrier White Princess from April 2023 to April 2024 by NYK Line ("NYK"), MTI Co., Ltd. ("MTI"), Oshima Shipbuilding Co., Ltd. ("Oshima shipbuilding"), Terasaki Electric Co., Ltd. ("Terasaki Electric") and Daihatsu Diesel MFG Co., Ltd. ("Daihatsu Diesel").

In the demonstration test, fuel consumption was measured and a safety evaluation was conducted with the Hz Navi mode (approx. 57 Hz) activated, and an energy-saving effect of approximately 10% was confirmed for the generator. No abnormalities were observed during the demonstration test, and it was confirmed that the vessel could be safely navigated.



Hz Navi prototype



Hz Navi screen sample

Current generator frequencies are set so that onboard equipment such as pumps and motors, which operate in conjunction with the power supply frequency, can perform adequately even under the worst possible conditions, and operating at the normal frequency during normal navigation consumes extra power. Therefore, there was a need to develop a system that could reduce fuel consumption and quantity by lowering the frequency of generators to best match optimal specifications.

Hz Navi is a system that allows generator frequencies to be adjusted according to shipboard conditions within the range specified by ship classification rules, thereby reducing the fuel consumption of generators. This system utilizes a technology jointly patented by NYK and Tsuneishi Shipbuilding Co., Ltd. called “generator frequency control technology” (Patent Number JP6238600), which allows the generator frequency to be switched between the regular frequency and a lower energysaving frequency.



White Princess



Onboard power supply before and after installation of Hz Navi

The five companies will deepen their collaboration to commercialize Hz Navi and work together to achieve a more sustainable energy-saving system.

Companies

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