

## **JMU and NYK Sign Tanker Shipbuilding Contract Featuring Guaranteed Performance Clause with a New Evaluation Method**

— New Initiative Will Enhance Fuel Efficiency and Reduce GHG Emissions by Improving Actual Sea Performance —

Japan Marine United Corporation ("JMU"; head office: Yokohama, Kanagawa; president: Takashi Hirose) and Nippon Yusen Kaisha ("NYK"; head office: Tokyo; president: Takaya Soga) have been collaborating since September 2020 to develop a method for estimating a vessel's propulsion performance in actual sea conditions ("actual sea performance")\* before construction and to establish a technical and objective evaluation framework.

Today, JMU and NYK agreed to incorporate a newly established evaluation method into the construction contract for a next-generation crude oil tanker scheduled for delivery in March 2026. This contract will feature an actual sea performance guarantee clause, ensuring propulsion efficiency in actual sea conditions.

By enhancing fuel efficiency in actual operating environments, the initiative will contribute to reducing greenhouse gas (GHG) emissions and advancing sustainable shipping practices.

### **Background**

When concluding a shipbuilding contract, it is standard practice to confirm the guaranteed speed based on the relationship between ship speed and horsepower under calm weather and sea conditions ("calm sea performance").\*\* However, because actual sea conditions do not fully align with these idealized scenarios, establishing an evaluation method for actual sea performance has been a formidable challenge.

In September 2020, JMU and NYK became the first in the world to introduce a clause guaranteeing actual sea performance into the shipbuilding contracts for two newly built crude oil tankers. Subsequent joint verification by both companies confirmed that the difference between the pre-agreed guaranteed speed/power curve\*\*\* for actual sea conditions and the actual results was minimal. Building on this success, we have

established a method that analyzes and evaluates actual sea performance with greater precision.

### **Future Outlook**

For the latest crude oil tanker scheduled for delivery in March 2026, actual sea performance has been further enhanced. During the first year of operation, JMU and NYK will conduct joint verification to compare and validate the guaranteed speed/power curve against actual sea performance. In addition, the newly introduced actual sea performance guarantee clause incorporates an incentive mechanism that provides fair benefits to both parties based on achievement levels, representing a more advanced guarantee framework than that applied to the previous two vessels.

JMU and NYK will leverage the insights gained from this initiative to support the development of new vessel designs and further improve actual sea performance. We are also advancing efforts to evaluate actual sea performance for other vessel types. By actively introducing new technologies, JMU and NYK will continue to promote initiatives that reduce fuel consumption during actual sea voyages and contribute to GHG emission reductions.

#### **\* Actual sea performance**

Performance in weather and sea conditions similar to those prevalent in the oceans. When drawing up contracts, shipyards often have difficulty making precise estimates because the navigation route, weather, and sea conditions are unknown. The hull shape above the water has a significant impact on actual sea performance.

#### **\*\* Calm sea performance**

Propulsive performance when moving straight ahead in calm weather conditions. Each shipyard has long-standing knowledge of this performance and can estimate it with a high degree of accuracy at the time of contract conclusion. The hull shape below the water has a significant impact on calm sea performance.

\*\*\* Guaranteed speed/power curve

A graphical curve representing the relationship between a vessel's speed and horsepower guaranteed between JMU and NYK.

**More Information**

JMU and NYK Formulating Method for Evaluating Ship Performance in Actual Seas(March 29, 2024)

[https://www.jmuc.co.jp/en/news/assets/NYK and JMU Devising Method for Evaluating Ship Performance in Actual Seas.pdf](https://www.jmuc.co.jp/en/news/assets/NYK%20and%20JMU%20Devising%20Method%20for%20Evaluating%20Ship%20Performance%20in%20Actual%20Seas.pdf)