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Pan Pacific Copper Co., Ltd.
Nippon Marine Co., Ltd.

Demonstration Trial of Biodiesel Fuel on Ore and Sulfuric Acid Carrier Koryu

Pan Pacific Copper Co., Ltd. (President: Yosuke Murao; “PPC”) and Nippon Marine Co., Ltd. (President: Kenji Takahashi; “Nippon Marine”), a member of the SENKO Group, have commenced a demonstration trial using B30 fuel (Biodiesel Fuel; “B30”), a blend containing 30% high-purity biodiesel,¹ an alternative to conventional fuel oil, aboard Koryu, an ore and sulfuric acid carrier² operated by Nippon Marine. The vessel departed on October 10, and the voyage is scheduled to be completed in early November.

During the trial, Koryu will transport sulfuric acid from the Saganoseki Smelter & Refinery of JX Advanced Metals Smelting Co., Ltd. in Oita City, Oita Prefecture, Japan, to the Port of Mejillones in Chile. The voyage is expected to use 560 metric tons of B30 and reduce greenhouse gas (“GHG”) emissions by 646 metric tons, or approximately 20%, compared with the use of conventional fuel alone.

PPC is committed to ensuring the stable operation of the raw material and product logistics that support its copper smelting business, while reducing the environmental impact of its overall business activities. Maritime transportation of copper concentrates, sulfuric acid, and other materials is a vital logistics function underpinning PPC’s operations. Reducing GHG emissions from transportation is therefore one of the key challenges in decarbonizing the entire supply chain.

Through the ownership and management of ore and sulfuric acid carriers and other vessels, Nippon Marine supports the maritime transportation of nonferrous metal raw materials and products. The company is also working to reduce the environmental impact of maritime transportation. In 2024, it installed a rotor sail, a wind-assisted propulsion system,³ on Koryu, among other initiatives to reduce GHG emissions.

Through this initiative, the two companies will assess the feasibility of maritime transportation using cleaner marine fuel as part of their efforts to help realize a decarbonized society. In addition to energy savings achieved through the rotor sail, the use of B30 is expected to further reduce GHG emissions from maritime transportation. Based on the results of this trial, the two companies will continue studying ways to lower the carbon intensity of marine fuels and reduce GHG emissions from maritime transportation, thereby reducing environmental impact across the entire supply chain.

Note 1: Biodiesel is produced from renewable resources such as used cooking oil and plant-derived oils and fats, and is considered to contribute to reducing GHG emissions over its life cycle. The trial uses 560 metric tons of B30, produced by blending 30% FAME (Fatty Acid Methyl Ester), a biodiesel certified under the International Sustainability and Carbon Certification (ISCC) system, with very low sulfur fuel oil (VLSFO). Of the total, 168 metric tons is biodiesel.

Note 2: A specialized vessel capable of transporting both copper concentrate and sulfuric acid, with a deadweight tonnage of 53,762 metric tons. Two such vessels make round trips between Japan and Chile, transporting approximately 270,000 metric tons of copper concentrate and approximately 180,000 metric tons of sulfuric acid annually.

Note 3: Press release dated July 10, 2024: [“BHP, Pan Pacific Copper and Norsepower deploy wind-assisted propulsion technology on vessel that set sail this month”](#)



Ore and sulfuric acid carrier Koryu