

GSC develops principle design for ammonia-ready LNG-fueled Panamax bulk carrier -Awarded ClassNK's Approval in Principle-

Planning and Design Center for Greener Ships (GSC), in cooperation with member shipbuilders in Japan, has developed an ammonia-ready LNG-fueled Panamax bulk carrier, and was awarded an Approval in Principle (AIP) for it from ClassNK on 20th April 2022.

The Panamax bulk carrier is LNG-fueled but ready for ammonia-fueled. For the short-term aiming lower CO₂ emissions, it will be operated by using LNG fuel. For the long-term aiming toward zero CO₂ emissions, it has two scenarios; in the first scenario, it is converted to ammonia fueled propulsion systems, in the second scenario, it will keep the systems but will switch its fuel from LNG to liquefied carbon-neutral methane. The ship is developed as a flexible and efficient solution to enduring the unpredictable period of fuel transition.

For LNG-fueled arrangement, the systems will be operated as dual-fueled LNG and HFO, and for ammonia-fueled arrangement, they will be operated as dual-fueled NH₃ and HFO. Both arrangements can keep the similar endurance and cargo capacity as the current Panamax bulk carrier. This design tries to apply materials and equipment applicable to both LNG and ammonia as much as possible, and also to use modularized arrangement that makes conversion easier. Both will contribute to minimize modification cost and to shorten non-operation periods.

GSC is working to contribute to the sustainable development of Japan's maritime industry, through the planning and designing of new ships for the realization of zero emissions in the international shipping sector.



AIP granting ceremony

From left,

Mr. Hiroaki Sakashita, President & CEO, ClassNK

Mr. Shinjiro Mishima, Representative Director, GSC



Ammonia-ready LNG-fueled Panamax bulk carrier conceptual image 1

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Overview of ammonia-ready LNG-fueled Panamax bulk carrier

PRINCIPAL PARTICULARS		
LENGTH	(O.A.)	abt. 228.9 M
LENGTH	(B.P.)	225.45 M
BREADTH	(MLD)	32.26 M
DEPTH	(MLD)	20.10 M
DEADWEIGHT		abt. 80,400 MT
MAIN ENGINE	MCR	8,000 kW
SERVICE SPEED		abt. 14.2 KNOTS
CH ₄ / NH ₃ FUEL TANKS		2,500m ³ x 2sets



Ammonia-ready LNG-fueled Panamax bulk carrier conceptual image 2



Ammonia-ready LNG-fueled Panamax bulk carrier conceptual image 3

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