

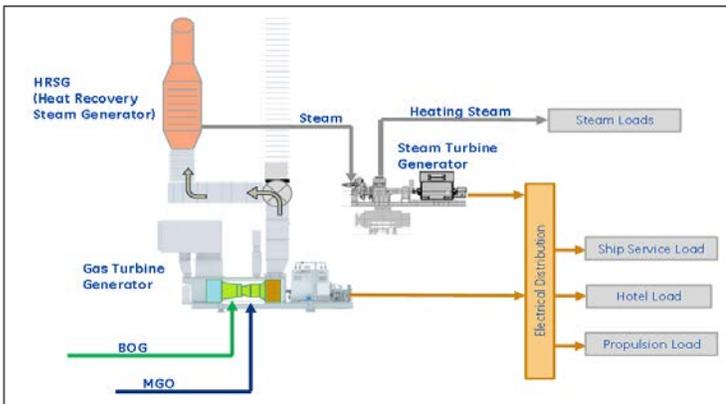


GE Teams with Hudong-Zhonghua Shipbuilding on COGES LNG Carrier Design

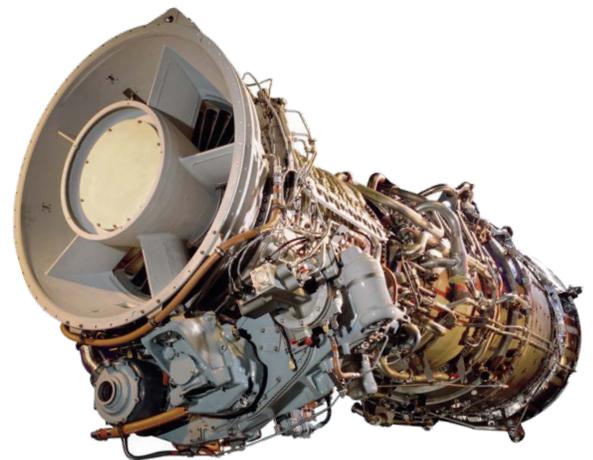
GE’s Marine Solutions and Hudong-Zhonghua Shipbuilding (Group) Co. Ltd. (HZ) received Approval in Principle (AIP) from the American Bureau of Shipping (ABS) for a jointly developed liquefied natural gas (LNG) carrier design. This new 178,000 cubic-meter LNG carrier will use GE’s COmbined Gas turbine Electric and Steam (COGES) system for all power and propulsion. With AIP in hand from ABS, customers can now procure this LNG carrier that is capable of meeting Tier III International Maritime Organization and Tier 4 United States Environmental Protection Agency emissions requirements today.

The compact and lightweight COGES arrangement allows customers to realize an additional 4,000 m³ of LNG cargo space versus a traditional 174,000-m³ LNG carrier powered by dual fuel diesel engines. Since the GE gas turbine is fuel flexible and dual fuel capable, it can operate either on the carrier’s cargo of Boil Off Gas (BOG) or on Marine Gas Oil (MGO).

Customers can expect lower life cycle costs with a COGES system thanks to negligible lubricating oil consumption, no methane slip and no pilot fuel or exhaust treatment required. Maintenance is easy since little is required with COGES; only about 300 man-hours per year while the ship is underway. When more extensive maintenance is needed, the entire turbine can be removed and replaced within 24 hours, reducing downtime and enabling maintenance to be carried out with minimal interruption to ship operations.



Shown in Figure 1 is the COGES system applied on the HZ LNG carrier. The COGES system will feature one GE LM2500-family gas turbine generator, one heat recovery steam generator (HRSG) and one steam turbine generator.



GE’s 25 MW marine gas turbine

Specifications: HZ COGES-Powered LNG Carrier	
Cargo tank capacity (100%)	~ 178,000 m ³
Length overall	~ 290.00m
Length between perpendiculars	284.00m
Breadth (MLD)	46.95m
Depth at side at main deck (MLD)	26.25m
Depth at side at trunk deck (MLD)	33.40m
Design Draught (MLD)	11.5m
Scantling draught (MLD)	12.5m
Deadweight (at design draught)	~ 83,500t