METHANE MICKIE HARPER INFORMATION

Introduction

The Methane Mickie Harper was one of the four new vessels BG Group ordered from Samsung Heavy Industries. The vessel, delivered to BG Group in October 2010, incorporates new design features including a tri-fuel diesel electric propulsion system and a re-liquefaction plant that provides better fuel efficiency and additional operational flexibility for these vessels.

The vessel is technically managed and manned by GasLog LNG, BG Group's only technical manager for the BG Group-owned fleet.

The ship's complement of staff is normally 28 officers and crew with the majority of officers being of Greek nationality and the crew from the Philippines.

While the vessel is at sea, the bridge is manned by one officer and one crew member whilst the engine room is manned by the engineering officers and crew.

General Information

Vessel Name: Methane Mickie Harper

Builder: Samsung Heavy Industries, Korea

Year Built: 2010

Containment System: Membrane Type GTT Mark 3

Dimensions

Length Overall: 291 metres

Beam (moulded): 45 metres

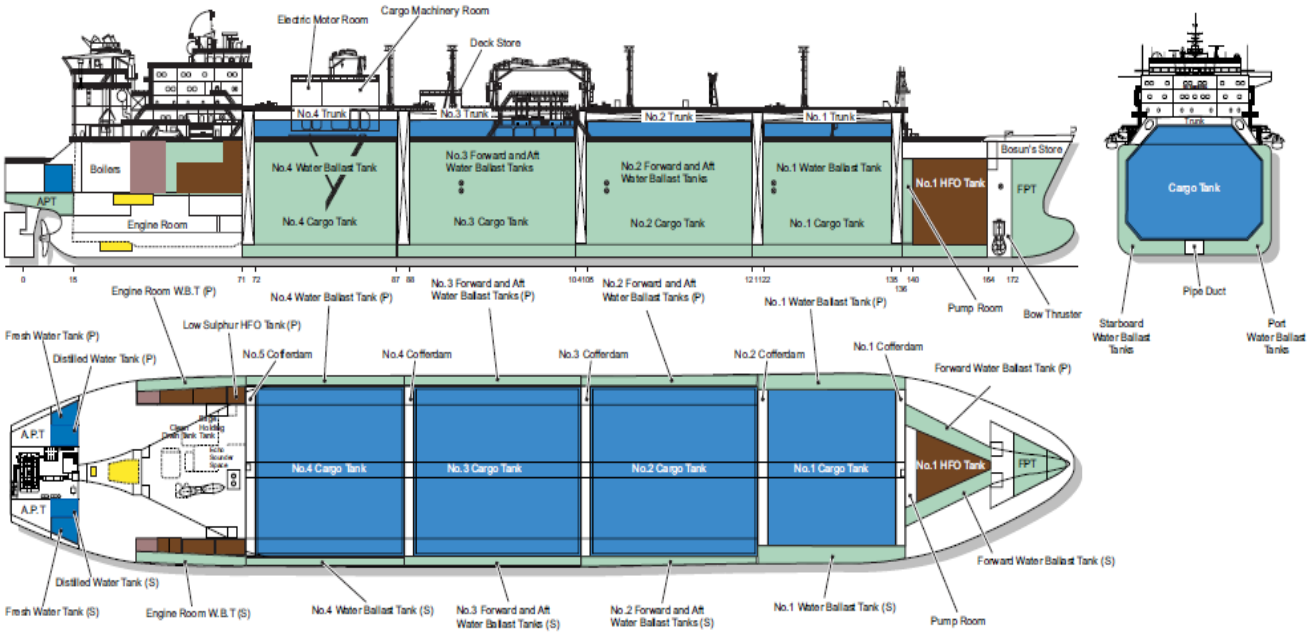
Depth (moulded): 26.0 metres

Design Draft, summer: 12.5 metres

Interesting facts

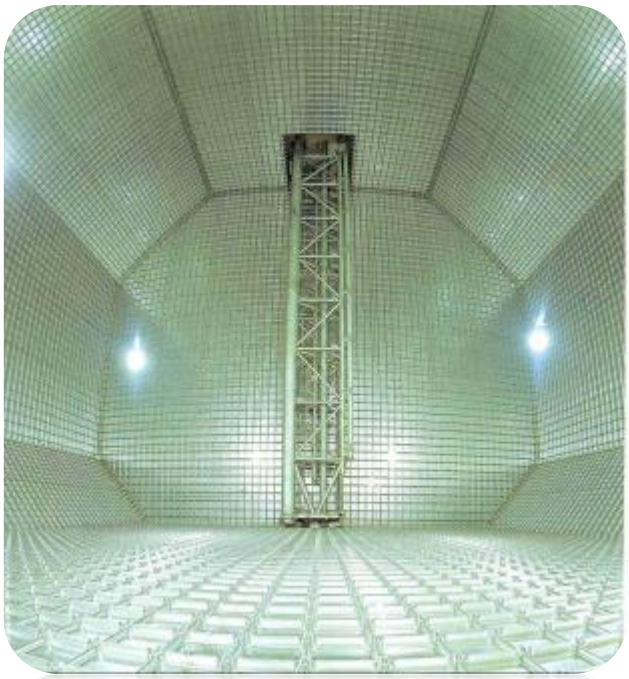
- The vessel is 291m in length and has a beam (breadth) of 45 m, which is equivalent to 3 soccer pitches laid end to end and approximately the same width
- The maximum speed of the vessel is approximately 20 knots (37km/hr) and the maximum shaft power is 25,400kW HP, which is the equivalent of 53 Ferrari Enzos
- The engines will consume approximately 150 mt of heavy fuel oil per day to achieve the maximum service speed

General arrangement

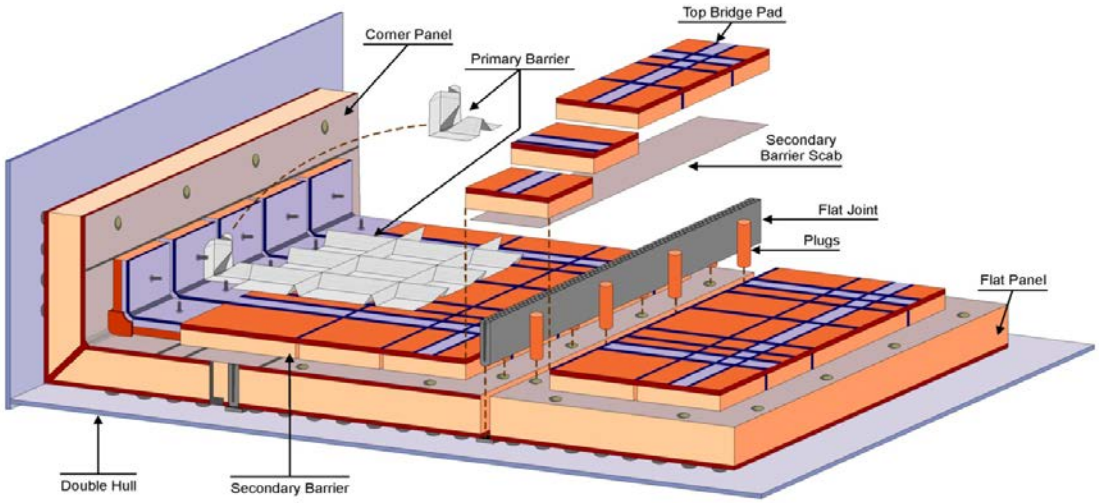


Cargo operations and equipment

- The vessel has four cargo tanks with a maximum capacity (98%) of 167,333m3.
- Each cargo tank is fitted with two cargo pumps, with each cargo pump capable of a maximum discharge rate of 1,700m3/hr.
- The vessel is capable of receiving a full cargo of LNG within 14 hours, excluding time for topping up, and a gradual increase of the loading rate up to 12,000m3/hr.
- The ship is able to discharge the bulk cargo through three liquid manifolds in approximately 12 hours (excluding slow starting and topping off).
- The cargo tanks are of the Membrane GTT MkIII design. The primary barrier is constructed of 1.2 mm thick stainless steel and the secondary barrier is constructed of Triplex. The insulation installed is approximately 260mm thick.



Cargo tank construction



Voyage Management

Following the vessel loading, the Methane Mickie Harper will proceed to the discharge port at a speed advised by the BG Group operations team.

During the voyage, the cargo will naturally boil of at a rate of 0.15% of the maximum allowable cargo capacity; this equates to approximately 250m3 of LNG per day, which can be consumed by the engines, or up to 50% of the natural boil off can be re-liquefied with the remaining gas being consumed by the engines.

The vessel is fitted with four Wartsila engines that provide propulsion power to the two Converteam propulsion motors. The engines are capable of burning heavy fuel oil (HFO), diesel oil and boil-off gas.

The vessel can achieve a speed of 17 knots on natural boil-off only when fully loaded, but if the speed required is higher than 17 knots, the vessel will need to consume additional fuel. This will normally be additional gas due to the engine configuration. If the vessel is required to sail at less than 17 knots, the ship staff will utilize the re-liquefaction plant to return the excess gas back to the tanks as liquid. The decision for what type of additional fuel to be used is made by the BG Group Optimisation and Operations teams.