MARITIME TRANSPORT OF COMPRESSED NATURAL GAS

Summary

Compressed Natural Gas - CNG - has been used as a method of transportation gas in land modes of transport for years. Now a CNG technology has been applied to maritime transportation. Before the only way to carry gas by sea was to liquefy it. Still the LNG technology is predominant. CNG technology can be used for land reserves as well as for off-shore, especially in this case when pipeline or LNG solution is uneconomical.

In CNG technology natural gas is compressed for the purpose of simplified carriage and storage. Gas is compressed into special gas containment tanks (GCTs) which are predominantly cylindrical. CNG ships have gas containment system GCS comprising GCTs which are installed in vessel's hull. The system can include tanks up to 30 m length arranged horizontally or vertically. The maritime CNG supply chain includes three main elements: loading and discharging points and carriage between them.

Different way of CNG carriage is intermodal transport. The tanks with compressed gas are transported in intermodal unit. The most common is 40-foot ISO container. In this system tanks in containers after discharging from the ship are transported in this unit to consumer. Intermodal transport has an advantage both in cost and time in compared with conventional transport. Container improve also the safety of carriage.