LNG Shipping

LNG tankers are double-hulled ships specially designed and insulated to prevent leakage or rupture in an accident. The LNG is stored in a special containment system within the inner hull where it is kept at atmospheric pressure and -256°F.

Three types of cargo containment systems have evolved as modern standards. These are:

- The spherical (Moss) design
- The membrane design
- The structural prismatic design

Most LNG ships use spherical (Moss) tanks, and they are easily identifiable as LNG ships because the top half of the tanks are visible above the deck. The Gorgon facility will be designed to receive LNG tankers with capacities ranging from 125,000 to 215,000 cubic meters of LNG.

The typical carrier measures some 900 feet in length, about 140 feet in width and 36 feet in water draft, and costs about $160 million. This ship size is similar to that of an aircraft carrier but significantly smaller than that of a very large crude oil carrier LNG tankers are generally less polluting than other shipping vessels because they burn natural gas in addition to fuel oil as a fuel source for propulsion.

Storage and Regasification

To return LNG to a gaseous state, it is fed into a re-gasification plant. On arrival at the receiving terminal in its liquid state, LNG is pumped first to a double-walled storage tank, similar to those used in the liquefaction plant, at atmospheric pressure, then pumped at high pressure through various terminal components where it is warmed in a controlled environment. The LNG is warmed by passing it through pipes heated by direct-fired heaters, seawater or through pipes that are in heated water. The vaporized gas is then regulated for pressure and enters the pipeline system as natural gas. Finally, residential and commercial consumers receive natural gas for daily use from local gas utilities or in the form of electricity.

Information on this page from Introduction to LNG, University of Houston, Institute for Energy, Law & Enterprise.

See also LNG Safety & Security Report, University of Houston, Institute for Energy, Law & Enterprise.

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Operated by **Chevron Australia**
in joint venture with
ExxonMobil