

Cargoworthiness - Gas Tankers

A predominant source of cargo claims in this type of ship is contamination. However, due to the complex nature of these vessels, this type of problem may be caused by a variety of reasons. A second major source of claims against the vessel arises from a vessel's inability to meet the cargo temperature and pressure requirements of shore terminals, resulting in serious delays to cargo operations. The surveyor should pay particular attention to the following items when inspecting the vessel's cargo arrangements:

- Condition of the manifold installation, including drip trays and save-alls.
- Operation of all liquid line, vapour line and condensate line valves and safety lines.
- Labelling and colour coding of manifolds, valves, pipelines etc.
- Presence of scale accumulations, which might contain residues of previous cargoes, in cargo tanks.
- Presence of cargo residues in tank risers feeding into horizontal deck lines.
- Condition and layout of Cargo Control Room, with regard to cleanliness, ventilation, access, and communications arrangements.
- Suitability of gas freeing arrangements and procedures.
- Inert Gas system.
- Operation of cargo refrigeration plant paying particular attention to automatic equipment and expansion valves.
- Condition of cargo tank containment spaces and insulation.

As well as inspecting the vessel's cargo arrangements as described above, the surveyor should conduct a series of tests to establish the integrity of the cargo containment system. The extent and sequence of testing to be carried out will depend on such factors as the vessel's condition and schedule, whether or not the cargo and ballast tanks are empty, gas free and safe for entry and whether the vessel is loading or discharging cargo, and any specific concerns the surveyor may have. Upon boarding the vessel the surveyor should meet with ship's staff in order to agree a programme of practicable, applicable and appropriate tests, such as:

- Pressure test all cargo tank pressure release valves over the entire range of settings applicable to the cargoes the vessel is fit to carry.
- Pressure test tank access lids to ensure gas tight.
- Function test of high level alarms and gauging system paying particular attention to pitot tube type systems.

The surveyor should also check compliance with:

- MARPOL
- Relevant IMO Pollution and Dangerous Cargo Regulations.
- SIGTTO (Society of International Gas Tanker and Terminal Operators Ltd)
- Mooring gear as per O.C.I.M.F. guidance (Oil Companies International Maritime Forum).

Attach a copy or sketch of the plan layout of cargo tanks and the pipeline system.