

Abstract

Corrosion on board tankers is an often underestimated but important problem that can cost shipping companies a substantial amount of money. Problems are often not discovered until serious damage has occurred.

Critical areas where corrosion commonly occurs include the sea chest strainer, ballast water discharge line and scrubber overboard pipe. This was determined by reviewing the literature and interviewing experts.

To investigate these problems in more detail, sensors were installed aboard the LPG tanker Kruibeke (Exmar). Sensor systems were installed in the lower sea chest strainer and on the ballast water discharge line. The sensor systems measured the corrosion rate and a number of environmental markers.

The environmental parameters are all highly variable. In the sea chest strainer they are largely dependent on the location of the ship. In the ballast water discharge line, the parameters are influenced by the time since the last deballasting and the origin of the ballast water.

Due to technical problems, corrosion data could not yet be obtained.

Robust design considerations proved crucial to withstand the demanding conditions on board a gas tanker. For a future installation of a similar demonstrator, it is essential to focus on optimizing data transmission and anticipating sensor failures.