Application Report

Chemical/Products Tanker (11.000 dwt)

OPTIWAVE radars installed on chemical tankers for Stolt-Nielsen

- Originally equipped with a minimal hydrostatic pressure sensor system
- OPTIWAVE radars installed in order to lift the accuracy for measured ullage

1. Introduction

Stolt Razorbill (built in 1995) and Stolt Pelican (built in 1996) are high spec chemical tankers, normally trading in Europe. With 20 stainless steel cargo tanks, the ships can load all kinds of cargo, from vegoil to the most difficult acids and dangerous chemicals. During dry docking in Santander, Spain in November, Stolt installed the OPTIWAVE cargo level radars for all 20 cargo tanks on the Stolt Pelican.
The installation works were performed efficiently by the ship's crew and local yard workers, and finally commissioned and tested by our service engineer.
The sister vessel Stolt Razorbill will have the same installation made during its next docking in June 2010.

2. Project data

Project	Retrofit of 2 x 11.000 dwt (Stolt Pelican / Stolt Razorbill)
Shiptype	Chemical/Products Tanker
Owner	Stolt Tankers BV
Class	Lloyds Register, Germanischer Lloyd, IMO II
Year of delivery	2009 / 2010 (Tankers built by Baltiyskiy in 1995 and 1996)

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3. System design

Cargo level gauging	20	OPTIWAVE 8300 C Marine (radar beam type)
Cargo inert gas pressure	20	P-110, Monitoring and alarm
Cargo temperature	20	2 points per tank

The compact design of main electronics makes placing of equipment easy

The complete installation on Stolt Pelican was done in 8 days during dry docking in Santander, Spain in November 2009.

New OPTIWAVE radars installed on deck. In addition to the radars, the system also includes installation of new Inert Gas pressure sensors and temperature sensors.

4. Products used

OPTIWAVE 8300 C Marine

Non-contact Tank Level Radar (FMCW) for cargo tank level gauging

- High precision (2 mm)
- Redundant ullage indication
- Fully stand-alone unit with touch screen
- Closed tank service and cleaning of all components
- Designed to operate in rough conditions on main deck

P-110

Cargo Inert Gas Pressure (IGP) Sensor for measurement of tank pressure

- Absolute gauging technique, sensor completely sealed
- Diaphragm and housing material stainless steel AiSi 316 L
- Semi flush diaphragm

Temperature sensors

- Pt-1000 sensor elements
- Digital communication for noise supression
- Temperatures at 2 levels and average calculations

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