Easier cargo measurements for tankers claimed

KROHNE Skarpenord's OPTIWAVE cargo level radar is claimed to have drawn the market's attention, due to its new design and technical features.

The tank radar is designed differently from the others in the market. "We offer some unique features with the OPTIWAVE 8300 C Marine that can potentially save tanker companies big money on the operational side", explained Iver Evensen, KROHNE Skarpenord's marketing manager.

The development and design of the OPTIWAVE was undertaken together with Porsche and KROHNE's center for microwave research and development in France. The result is a unique level instrument, offering more stable operation on board ship. The OPTIWAVE is also more compact and easier to fit than its predecessor, the company said.

Redundant display

For all KROHNE Skarpenord tank radars, stand-alone operation is delivered as standard. This means that the radar calculates all level data locally, before transmitting the level to the main system in the cargo control room. This is a much safer way of operation, as the level will always be provided locally from the instrument mounted on deck. The instrument carries an easily accessible, high-resolution display, protected by a heavy-duty stainless steel cover. Operating the radar locally is user-friendly by way of a touch screen user interface.

Other marine tank level radars do not offer stand-alone functionality and all tank level calculations must therefore be made in the central computing unit in the cargo control room. "Our customers see that they are no longer depending on only a few components in the master cabinet for computing tank levels", said Evensen.

Today, major oil companies, especially in the US, will not allow the loading of cargo if the cargo monitoring system is out of order. With the OPTIWAVE installed, the loading operation can go ahead, as it is approved as a stand-alone system in itself. Having a person on deck following the local indicators provided directly on the radar's screen, will fulfill the requirements for closed loading. "We have designed our radars this way to avoid a potential small defect in central electronics that may lead to an 'off-hire' situation" said Evensen.

Local monitoring of the cargo level is convenient for the crew, but additionally it improves safety, as the operators will be able to check levels locally at all times during loading.

On a daily basis, tanker operators are seeing that many cargoes leave vapour and cargo residues on the level radar antenna. These residues may interfere with the cargo level indication, as they disturb the radar signals. This is a known problem for all radar level gauging, but the extent depends on various factors - type of cargo carried, heating, heavy seas, etc. Clean products do not normally require frequent antenna cleaning. However, crude oil and various chemicals will need regular cleaning.

Closed tank

Normally, it will be necessary to open the cargo tank in order to clean a level radar antenna. To do this in a safe and HSE-approved way, the tank must be cleaned and consequently vented for hours. This operation is both time-consuming and costly. In the OPTIWAVE, the radar antenna may be cleaned with the tank closed, which saves a lot of time and effort. "Just connect a steam hose, water line or even our portable hand pump to the cleaning connection and you have a clean antenna in seconds!" claimed Evensen.

How does it work?

A lockable ball valve is mounted on a specially

KROHNE's OPTIWAVE has proved popular.

designed cleaning nozzle. The nozzle does not disturb the radar signals and points directly at where the radar signals are propagated from the transmitting/receiving unit. This design ensures a thorough washing of all the critical parts and removes dirt and sediments that could interfere with the radar beam.

Closed cleaning of the radar's antenna is extremely convenient and also protects ship's crew from exposure to cargo vapours. With KROHNE Skarpenord's closed cleaning facility exposed parts can be thoroughly cleaned with steam, hot water, or cleaning solvents without opening the tank. This is undertaken through a washing connection protected by a ball valve. With crude oil in the tank, it is possible to wash the antenna before the cargo is discharged, as the amount of steam/water used is minimal.

With the operational benefits of redundant display and closed tank cleaning, the OPTIWAVE can reduce time and effort spent on tank handling, the company claimed.

New orders

Recently Odfjell's signed a contract to fit CARGOMASTER® tank level gauging systems on six 9,000 dwt stainless steel newbuildings at ChuanDong, China. Deliveries are scheduled for this year through mid 2010.

The contracts were placed by ChuanDong shipyard in Fuling. Previously, the same yard had selected similar systems for four newbuildings to be delivered to Brovig.

Complete systems of high specification are to be delivered, including pressure sensors in ballast, service tanks and line pressures, as well as the radar gauging system on the cargo tanks and other measuring points.

The final decision to choose CARGOMASTER® with OPTIWAVE was made by Odfjell's newbuilding department. "Since the decision came after a long and thorough evaluation against major competing systems, we trust that the unique features of the OPTIWAVE radars, as well as the level of redundancy in the system, were key elements of the selection" said Hasse Hogner, KROHNE Skarpenord's vice president.

"We are pleased to see that the order follows our previous contracts in another yard offering stainless steel tankers; the Qingshan yard building for Utkilen. It is safe to say that our system now holds a very strong market share for this type of tankers in China," Hogner concluded.

Last November, the company announced its largest order to date. This was signed with South Korea's Dae Sun Shipbuilding for CARGOMASTER® tank level gauging systems, including radar beam type, for the cargo tanks on vessels ordered by Greek owners Remi Maritime and NG Moundreas.

The contract was for 13 complete shipsets and followed another four already contracted at the same yard for delivery to Eitzen Chemical.

Remi Maritime ordered nine tankers, while the other four will be delivered to NG Moundreas. Delivery of the vessels is earmarked for 2009, 2010 and 2011. The tankers will be built according to chemical/product carrier IMO II specification.

KROHNE's South Korean partner, Scana Korea, supported Dae Sun during the design and building process. All questions regarding installation and operation are being handled locally, which is valued highly by the yard. Also, the full commissioning of the systems TO

Greek owners have followed Eitzen Chemical in ordering CARGOMASTER tank level gauging systems.