

# MISC saves 10 per cent vessel costs through training

LNG carrier operators MISC and Exmar Shipmanagement described the training and condition-based maintenance technology they use at Riviera Maritime Media's LNG World Shipping conference



**Sanjay Patil (MISC):**  
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**M**ISC Berhad has reduced vessel costs by almost 10 per cent through the use of a computerised crew competence management program, as well as other initiatives. The operator of gas carriers and chemical tankers has been using a crew competence management system, supplied and managed by Videotel, since 2014 on liquefied natural gas (LNG) carriers and chemical tankers. It has seen improvements in safety, seafarer performance and vessel availability.

MISC Europe-based head of customer relationship management Sanjay Patil described the benefits on the second day of Riviera Maritime Media's LNG World Shipping Ship/Shore Interface Conference in London in May. The Malaysian shipowner has reduced vessel operating costs by 9 per cent and drydocking costs by 10 per cent, he said. Vessel availability has risen to 99.8 per cent partially because of the company's training and assessments programme. This includes online training and continuing competence management program that enables seafarers and managers to track training, competence and career profiles. Videotel provides the platform to record and manage the system and to transfer the data.

The online recording system supports simulator training, onboard mentoring and assessments, and computer-based training. Seafarers use an online portal to update their own competence management, which supervisors can use to monitor and manage crew training requirements. "This has proven to be a useful tool to be developed further to conduct personnel assessments," said Capt Patil. "We have seen a net improvement in health and safety, with fewer accidents, better vessel operations and efficiency, and better results from third party inspections," he told delegates.

"We identified the fact that there were competence gaps and found a way to fill these. We have mentors on board to train juniors and use the crew competence management system for performance appraisals. The mentors can transfer their knowledge and experience, and junior officers can see their career progression options." Capt Patil said there had been software stability problems with the IP platform during the initial roll-out, but these had been dealt with. "We use Videotel's recording system for exchanging information and feedback between vessels and offices. We had to train the assessors and mentors to ensure standardisation of officer evaluations." He said that some assessment and training was done on simulators, and MISC also uses e-learning computer-based training.

Also at the conference, Exmar Shipmanagement's global head of marine solutions, Sachin Mohan, described how the company uses condition based maintenance (CBM) to improve operations and reduce costs. He said CBM had been instigated on the fleet

of floating storage and regasification vessels that the company manages and operates.

"We are using CBM on these ships with a direct link to the computer and IT systems to try and prevent equipment damage or failures," he explained. "In this way, we focus on innovation and take a lead in safety. We also want to minimise conducting un-needed maintenance and downtime on the storage and regasification ships."

He said one of the key benefits of CBM is less unplanned off-hire periods on the ships. Exmar reported unplanned downtime of just 0.19 per cent for the LNG carriers and 0.14 per cent for the storage and regasification vessels. "This is almost nothing," Mr Mohan said. "We have an integrated IT system, so the CBM is linked to this. We also have displays on the ships so our captains can see any spikes in operations."

Electronics and communications technology was featured at the conference. Trelleborg Marine Systems UK presented its SeaTechnik Universal Safety Link (USL) for small-scale LNG transfer and LNG bunkering projects. This system enables operators to monitor both sides of the LNG transfer process and provides them with an emergency shutdown mechanism.

The USL combines SeaTechnik Ship-Shore Link fibre optic technology with electrical and pneumatic emergency shutdown. Trelleborg Marine Systems technical director Andrew Stafford said the USL is compatible with the latest ship and terminal connections and those on older systems.

The fibre link enables data to be transferred between the LNG carrier and the terminal. This can include tank levels, pressure and temperature data. It also has phone lines, links to a private automatic branch exchange (PABX) for calls, and an isolated Ethernet for client requirements such as internet access and voice over IP applications. The electric and pneumatic communication links act as a back-up to the fibre optic link. Mr Stafford said this system would be ideal for LNG bunkering operations or small-scale LNG import or regasification projects.

Trelleborg Marine Systems design engineer John Johnson said the data can be converted to Modbus, the serial protocol used by programmable logic controllers. The data can then be displayed and analysed on the ships and terminal. "The fibre has four phone lines – a hotline for critical calls, and three standard lines that can be linked to a PABX or can be lift-to-ring," he explained. "The Ethernet joins networks on either side to share information." Trelleborg can use this information to monitor ship performance. The first of these USLs for small-scale LNG transfer is being used by the USA's Tote Maritime and Harvey Gulf International Marine to load LNG fuel onto offshore support vessels. There are USLs at terminals in Jacksonville and in Port Forchon.

Signum Technology presented its ship-to-ship and ship-to-



**Andrew Stafford** (Trelleborg): SeaTechnik system would be ideal for LNG bunkering operations

terminal technology at the conference, including a control unit it is developing with Shell. Group technical director Anthony Webber said the Silsis control unit has integrated programmable logic controllers for monitoring and diagnosing issues that may arise during small-scale LNG transfers. It has a touchscreen and other interfaces for use in a control room at a terminal. The first use for Silsis will be at a Shell-operated LNG terminal in Jamaica. "We are looking to develop version two of Silsis so it is more streamlined and compact for installation on ships," said Mr Webber.

Cavotec can supply rugged tablet computers to vessel operators for monitoring the mooring system during ship berths. Group product manager for Cavotec's MoorMaster Mike Howie said the tablet uses data from the ship's automation and telemetry system. "We use this when mooring the ship to see the status of machinery and global forces on the ships," he said. MoorMaster is used to minimise the risk of ship incidents during berthing operations, particularly in strong currents and poor weather conditions.

## Radio Holland and Wärtsilä gain LNG carrier contracts

RH Marine Group subsidiary Radio Holland has supplied a telecommunications system on the *Golar Hilli* gas carrier. This is being converted into a liquefied natural gas (LNG) production vessel at Keppel Shipyard in Singapore. The installed telecomms system will include the public address and general alarm, the private automatic branch exchange, the security and surveillance system and ultra-high frequency radio. The entire package was delivered to the shipyard in May.

Wärtsilä has won a five-year contract with Nigerian gas transportation company Bonny Gas Transport to monitor engines on six new LNG carriers. Wärtsilä is to use its dynamic maintenance planning concept on the new ships. This involves condition monitoring of the engines to determine maintenance needs. The system provides real-time access and analysis of data, and enables automated measuring and a guarantee of power availability. Bonny Gas Transport will also have access to online operational and technical support. **MEC**