

## EMISSION MONITORS FOR MRV 'DO NOT EXIST'

Technology does not yet exist to implement the European Commission's preferred method of measuring the mass of CO<sub>2</sub> emitted by ships, as required by the EU's Monitoring, Reporting and Verification (MRV) Regulation, according to the chief executive of its leading verification provider, Verifavia Shipping.

Julien Dufour described to *Tanker Shipping & Trade* the four methods outlined in the regulations for calculating CO<sub>2</sub> emissions, three of which keep track of fuel consumption in various ways. But the fourth method would rely on continuous emission monitoring systems, "which do not yet exist," he said.

But the European Commission views this method "as the most appropriate and accurate to calculate the mass of fuel consumed," Mr Dufour said.

Although instruments exist that can measure the proportion of various gasses – such as SO<sub>x</sub> and NO<sub>x</sub> – in exhaust gas, the MRV regulation requires the total mass of CO<sub>2</sub> in the exhaust over

the course of a voyage. To obtain that, he pointed out, "you need not only the concentration but also the total volume of the exhaust gas between departure and arrival."

For the past two years, he said, Verifavia has spoken to many equipment manufacturers "and nobody told us they could do it." However, "most of them say they hope to be able to do it soon," he added, although even when the equipment becomes available, it will probably be expensive, he said.

For that reason, he does not expect there to be much take-up of this option, even when equipment has been developed. Although it might offer more accurate data, it would not bring any added value, he suggested. "We might not encounter this method for a couple of years," he added.

• EU's MRV Regulation will affect any ship of 500gt or more whose voyage includes at least one port of call in an EU member country. Ships will have to begin monitoring CO<sub>2</sub> emissions in January 2018.

**JULIEN DUFOUR**  
(Verifavia Shipping):  
"Nobody told us they could do it"



## SULPHUR CAP FORCES CHOICES ON EMISSION MONITORING SYSTEMS



An EMS filter probe installed on the weather deck just above a scrubber outlet

Choosing the right emissions monitoring system (EMS) is essential to be certain that a ship meets the global cap on sulphur emissions, believes Simon Brown, managing director of the emission monitoring specialist, Emsys Maritime. Mr Brown was chairman of IMO's working group of experts that revised its NO<sub>x</sub> Technical Code as part of the MARPOL Annex VI revisions in 2007-9.

In an article on the company's website, he has outlined a number of what he views as essential factors when an EMS for an exhaust gas scrubber, which starts with its specification. "Get your requirements correct at the start," he said, which includes confirming what equipment it is monitoring – an engine or a boiler, for example – and what local regulations the EMS

should be type-approved for.

Before the EMS is installed, it should be tested, and Mr Brown recommended attending its factory acceptance test to see the system assembled and speak to its designers. This might "bring up some items that may not have been considered at the requirements stage," he said. He also recommended preparing a detailed on-board test plan to check the system performs to specification.

When installing the EMS, it is important to consider where the sample points and control panels will be sited. "Ensure that the probes do not become contaminated by scrubber washwater, sootblowing or turbocharger cleaning materials," Mr Brown advised. Its control panel and analysis equipment must also be thoughtfully located so that its operators have easy access to each part of the system for maintenance.

"Shipbuilders have different selection criteria to the shipowner," Mr Brown observed, when he turned his attention to operating costs. Yards, he said, usually focus on capital cost and ease of installation, which

"may mean you end up with a system that is more expensive to operate," he said.

Then there is maintenance. It should be well documented and relatively straightforward, he said, so "complex analytical systems that need regular servicing by specialist technicians should not be considered."

His final advice is about training, but it is "probably the most important consideration of all," he said. Because a ship's crew is regularly changed, "a single training session at commissioning is not usually sufficient." Although training is expensive and time-consuming, he said, "you cannot afford to ignore this most important aspect."

In summary, he warns of the risk of falling for "the inkjet printer strategy of low upfront cost but back-end loaded profit in the cartridges." In his view, "a well specified system will be reliable and cost-effective [while] a poorly specified EMS can become a significant burden to the ship's crew and end up costing more than the system capital outlay if you have to switch to MGO whilst waiting for parts or service." **TST**