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## Ballast water system sales spike as shipowners' rush to comply with IMO rule

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Alfa Laval's PureBallast ballast-water management treatment system. Credit: Alfa Laval

Given increasing – and often confusing – environmental regulation, it is not surprising that many owners delayed making costly investment decisions until absolutely necessary. Nor is it surprising that complications arose when they finally did.

Following the entry into force of the International Maritime Organization's (IMO's) Ballast Water Management (BWM) Convention in September 2017, as well as tighter enforcement from the US Coast Guard (USCG), the industry is facing a much firmer compliance regime and many owners are rushing to meet it.

"The IMO regulations have been clarified, and together with knowing what the USCG wants, this has given a lot of certainty to the market," said Anders Lindmark, head of Alfa Laval's PureBallast brand. "It has definitely led to increased activity."

IMO rules state that all newbuilding ships must contain a BWM system, which is designed to prevent living organisms being transported in the vessel's ballast water and typically costs USD500,000–2 million each. Existing vessels must install the technology by their first five-yearly International Oil Pollution Prevention (IOPP) certificate survey after 8 September 2019, which should see the entire global fleet covered by 7 September 2024.

For vessels operating in US waters, the rules are more stringent. The USCG has required newbuilding vessels to be fitted with an approved BWM system since December 2013, while existing vessels need such a system from their first drydocking after 1 January 2016. As no BWM system was USCG-approved until December 2016, shipowners were granted exemptions to the legislation, often on an entire-fleet basis, with about 12,000–14,000 approved in total.

With 6 systems now USCG-approved and 11 undergoing evaluation, US officials have shifted to providing exemptions on a vessel-by-vessel basis, and only to ships that can prove the installation was not possible owing to factors such as lack of drydocking space or manufacturers' availability.

The result is that sales of BWM systems have begun to increase rapidly. "The [USCG] has pushed owners to start doing their installations," Optimarin chief executive officer Tore Andersen told *Fairplay* at a recent press event. "We think we are in the beginning of the famous wave," he said, referencing industry expectations that at some point, sales would increase exponentially as owners rush to install the technology on their existing vessels. He cited data that showed sales of Optimarin's BWM systems quadrupling in March against January's levels, a step-change that has been noticed by other companies in the market.

Chinese BWM manufacturer Sunrui told *Fairplay* that they had sold 80 systems thus far in 2018, representing a "definite" increase on the last quarter of 2017, while Alfa Laval's Lindmark said that recent clarity from the IMO and USCG had led to a "continuously high activity levels in the market". Based on that clarity, "we expect the high activity levels that we have seen in the market to continue", he said.

Whereas traditionally manufacturers have seen a majority of their sales go to newbuilding vessels, the market is now tilting towards retrofits as owners realise that the investment decision cannot be put off.

Sunrui said the majority of its systems are currently being sold for retrofits, while Optimarin said it was seeing a roughly 50/50 split with newbuildings, although the momentum was in retrofits' favour.

"You've got a retrofit window now going up to 2024 for IMO compliance, and I think we are going to get a peak from 2019 onwards when the second IOPP surveys will start to kick in," Intertanko environmental director Tim Wilkins told *Fairplay*. "What you are seeing today is the demand peak more from the USCG than the IMO requirements."

This year's jump in sales of BWM systems has sparked fresh problems. The supply of some systems is failing to keep up with demand, a situation that has seen some owners unable to secure a system for their next drydocking.

Furthermore, "Some manufacturers are so busy that their service networks are not mature enough to deal with all the technical problems that are being thrown up," said Wilkins.

The extent of the problems has prompted Intertanko to release a BWM contingency guide, detailing how its members can remain compliant and fulfil their contracts when faults do occur. "We always knew there would be teething problems, but the scale of the teething problems was unexpected," Wilkins said.

Each of the technologies in the market struggle to work in some conditions. Chemical-based systems face complications from varying salinity and temperature levels, while UV-based technologies can struggle to work in muddy conditions. "All systems also have filters, so in places with lots of sediment, you also get filter clogging," Optimarin's Andersen said.

This has caused serious problems for some owners, Wilkins said, citing cases in which vessels have been unable to take on enough ballast during the allotted time in port, a situation that is "not uncommon in high-sediment loading". The delays have led to higher fees and disputes with charterers, prompting some owners to install two systems so that one can be operated while the other is cleaned.

Proper crew training can help to mitigate many technical issues and limitations, Andersen added, citing the example of taking on ballast before entering high-sediment areas. "If you know you are going to go up in a river and you need to take on some ballast, try to bring with you as much ballast as possible," he said, adding that it is best to avoid the need to take on water that could clog the system's filter.

There are concerns within the BWM industry that owners are often failing to provide the necessary training, and there are rumours that some vessels have installed BWM systems but are failing to use them.

"You have to train your crew. They have to understand that you have invested in your ships and you have to train people how to use [the system]," Optimarin's Andersen said. "If not, you're not in compliance."

"It's not extremely sexy, this thing. There are a lot of other things that are more fun to play with and [crews] have a lot of other tasks to do on board, so they skip this kind of thing," he added.

Failure to use the system could also invalidate its warranty as it is based on normal maintenance procedures being followed, such as opening the filter every six months.

To prevent technical issues from occurring, owners should take into account where the vessel will operate before they purchase a BWM system. "It's very important that shipowners look into 'what is my trading pattern?' for specific vessels," said Lindmark. "Then you can match that with the limitations for the technology, and make the best investment decisions."

The need to choose a product that is right for the vessel is complicated by the need to suppress costs, a crucial factor for owners amid a period of weak earnings.

With the BWM market remaining relatively crowded, prices for the technologies have been held down despite booming sales, although at this stage manufacturers may be more focused on building market share in the anticipation of future business for spare parts.

"I am very happy with the sales, but the margins are tight," Andersen said. "Especially on big fleets, there remains a lot of pressure in the market."

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