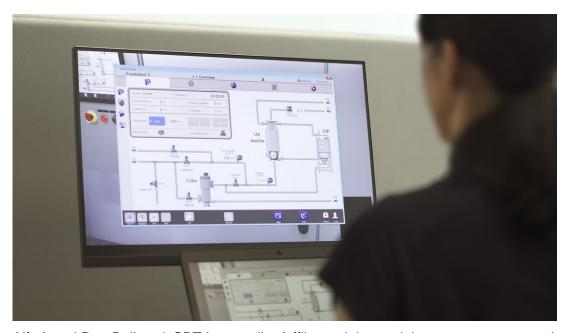


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Computer-based training for Alfa Laval PureBallast 3 will help secure crew competence – and ballast water treatment compliance

Lack of crew knowledge is not a valid reason for non-compliance in ballast water treatment. This is clear from statements made by the U.S. Coast Guard (USCG) and is also suggested by the IMO Ballast Water Management (BWM) Convention guidelines. To help customers manage the challenge of keeping crews updated and trained, Alfa Laval is introducing Alfa Laval PureBallast 3 Computer-Based Training (CBT).



Alfa Laval PureBallast 3 CBT is an online/offline training tool that serves as a complement to crew training on board or at training centres. Combining self-study, a 3D computer simulator and a final self-assessment, it allows masters and crews to become familiar with the components of Alfa Laval PureBallast 3 and the basics of its operation. The training is available 24/7 and can be incorporated into existing e-learning portfolios and certification programmes.

"PureBallast 3 CBT will save us man hours of training in the office, enhance safe operation and shorten the period of handovers on board," says Paul Noriel Ilano, Training and Vessel IT Manager for Lauritzen Kosan Manila, a ship owner who plans on adopting the tool. "Handling of the equipment by our engineers should not be difficult, because the system is straightforward and simple given proper familiarization and training in operation, maintenance and troubleshooting."

Knowledge as vital as the system itself

The importance of crew knowledge in operating and maintaining the ballast water treatment system on board is evident. Both IMO and the USCG have made clear that training and education must cover ballast water management practices and the specifics of the ballast water treatment system.

In its annual report for 2017, the USCG noted that many of the growing number of compliance deficiencies can be traced back to crew knowledge and training. The report states:

The lack of familiarity and training regarding the use of a BWMS, maintenance of the BWM plan specific for the vessel, and implementation of a BWM strategy were found to be a common trend with the deficiencies identified. In some cases, the Coast Guard found that the BWMS was only used during voyages to the U.S. and that crews received little or no training in operating and maintaining the system. For a BWMS to operate reliably, it must be used regularly and in accordance with the manufacturer's specifications.

The report also makes clear the potential consequences of crew failure. "The Coast Guard will continue to be fair and reasonable as these systems are put in service, but vessels must comply with U.S. ballast water management regulations," it states. "Noncompliance could lead to significant vessel delays and penalties."

Theory, practice and assessment in one package

PureBallast 3 CBT will make it easier to determine, improve and maintain crew competence levels with regard to ballast water treatment, so that ship owners and operators can feel confident in adhering to IMO and USCG legislation.

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The training package begins with self-study about the problem of invasive species and ballast

water management, as well as PureBallast 3 components and operation. This knowledge can

then be strengthened using the 3D simulator, which gives crew members a practical familiarity

with PureBallast 3 and its integration with the vessel's piping and tanks. Trainees can explore

and operate the computer-simulated PureBallast 3 system, learning how to start processes

and attend to alarms.

"Using this simulator for training our seafarers will greatly help them conceptualize the system

more easily and accurately," says llano, who sees significant potential for its use by Lauritzen

Kosan Manila. "It is also easily understandable," he adds.

The training concludes with a self-assessment, consisting of randomized questions that cover

both ballast water management in general and PureBallast 3 specifically. The assessment

provides a clear picture of crew skills, which are documented in a printed training report.

Building crew competence - today and tomorrow

For Alfa Laval, PureBallast 3 CBT is yet another aspect of providing customers with a

complete ballast water treatment solution and lasting peace of mind.

"Computer-based training will certainly not replace face-to-face training," says Jonas Alvan,

Manager, Alfa Laval PureBallast Customer Support. "But it will be an important complement,

especially in the long term as crew members come and go. With Alfa Laval PureBallast 3 CBT,

customers will have a simple, effective way to develop and maintain the competence they

need for compliance."

To learn more about Alfa Laval PureBallast 3 and Alfa Laval's approach to ballast water

treatment, visit www.alfalaval.nl/pureballast

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You can also stay up-to-date with marine industry news at Alfa Laval by visiting the <u>Marine Division's</u> LinkedIn page.

Editor's notes

About Alfa Laval

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company's equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval's products are also used in power plants, aboard ships, oil and gas exploration, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications.

Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena. Alfa Laval is listed on Nasdaq OMX, and, in 2017, posted annual sales of about SEK 35.3 billion (approx. 3.6 billion Euros). The company has about 16 400 employees. www.alfalaval.nl