

Oily Water Separators – The deficient

■ ■ There continues to be many detentions and fines on violations surrounding Marpol 73/78; an International Maritime Organization (IMO) regulation which prohibits the deliberate discharge of oily substances into our oceans. Many associations and organisations have taken proactive steps to help shipowners and shipmanagers take preventive measures to help stop this practice. The International Chamber of Shipping (ICS) and its member associations have produced a pamphlet of “best practices” to help shipowners and shipmanagers to safe guard against such violations. Videotel is producing several videos which will also help shipowners and shipmanagers safe guard themselves on such violations. The Videotel videos should be available sometime in the second half of this year. Our company has the pleasure to be one of many companies who have contributed to this production, which includes advice from various port states as well. I recommend that everyone in the shipping industry obtain copies of the ICS “best practices” pamphlet and the Videotel videos as a guide and introduction into the problems surrounding the Oily Water Separator.

Invest in training

Despite these wonderful guidelines I am afraid that ships will still be faced with potential illegal discharges, unless the shipowner is willing to invest thoroughly in equipments to correct the deficiencies that exist in the bilge water systems on board the vessels. It is also very important that companies make the commitment to invest in the training of their officers and crew surrounding the operations of the OWS systems on board the vessels. In the Philippines, through our affiliated company, Magsaysay Maritime Corporation, we have included in the training of cadets, crew and officers, the importance of proper maintenance and operations of the OWS systems. At our school we have the whole OWS system in place so that every shipboard staff knows how to operate the system, but training does not stop there.

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I have been invited by The Swedish Club to write about the problems surrounding the Oily Water Separator (OWS) as a follow up to my presentation made at The Maritime Cyprus 2005 Conference. The title was “Ship Source Pollution & Criminalization of Seafarers” and I believe the speech can be found on the internet. Rather than reiterating what was in the speech, I felt that it is more important to write what has transpired since then.

The culture and the philosophy of “zero tolerance” surrounding pollution, risks and violations of Marpol must be taught and stressed to the company’s managers and superintendents. In essence it is a change in culture for management and for all those serving on board the ships. For this reason I volunteered to write this article.

Deficient and inadequate

First of all, shipowners have to recognise that the OWS and its bilge systems are deficient and inadequate. Secondly, since Marpol 73/78 was introduced almost thirty years ago, the quality of fuel used has deteriorated substantially aggravating the system further.

Most shipowners and the shipyards that built the ships are very adamant that their ships comply with regulations. The ships have an Oily Water Separator, Oily Water Monitor, a bilge and holding tank. What the rule does not address

however is whether the layouts of the bilge systems and holding tanks are appropriately sufficient. Since thirty years ago, engine rooms have become smaller and smaller, accommodating more space for cargo spaces, thereby sacrificing the necessary spaces needed for tanks to make the OWS systems work more efficiently. Four years ago, one of our ships violated Marpol, and after intensive investigation, we began to realise that the holding tanks and bilge layouts on board our vessels were inadequate. In addition to adding more holding tanks, we had to invest in cascade tanks to help the dirty water to naturally separate oil from water. This process helped ensure that the water passing through the OWS would meet the discharge requirement of 15 parts per million. Such upgrades would cost between USD 35,000 to 300,000 per vessel, depending on the configuration of the vessels’ engine room.

With and without necessary investments

It is my firm belief that even though we have all the “best practices” advice and necessary investment in training of our shipboard personnel,

The first **chemical-free solution** to balla

■ ■ December 7th 2006 the first chemical-free system for ballast water treatment was launched in Greenwich, England. The product, which is called PureBallast, has been developed by Wallenius Water and Alfa Laval and has been launched more than two years in advance of International Maritime Organization’s (IMO) regulations to prevent the transport of potentially invasive species.

Meets a pressing need

The problem of invasive species has long been a matter of international focus. Species transported via ballast water from one ecosystem to another have devastated marine life, collapsed local businesses and economies, and necessitated billions

of dollars in control measures. Wallenius addressed this problem several years ago and since 2002, Wallenius have been involved in the development of a chemical free ballast water treatment system.

PureBallast is compact and designed for real-life conditions at sea.

While removing microorganisms to IMO-compliant levels without the use of chemicals, it accommodates the short- and long-term needs of shipyards, ship owners and ship operators.

The system is based on Wallenius AOT™ technology, a completely new way of treating water, offering high performance levels, without using chemicals and at a low operating cost. A full-scale prototype has been installed on board the Wallenius vessel, m/v Don Quijote since

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Greenwich, a site forever associated with marine break throughs...

The choice of Greenwich for the launch of PureBallast was no coincidence. The village, now part of London, was the site at which John Harrison fixed his measurements of longitude when he invented the marine chronometer. While PureBallast is designed to protect the world’s oceans rather than help in navigating them, its impact on the shipping industry has the potential to be as sweeping and as positive as the chronometer’s was in its time.

cies are simple to correct!

without the shipowners' initiative to invest to improve the deficiencies on board vessels to protect the environment and fix the systems to comply properly, ships will still be at risk of violations.

Without the necessary investments and commitments to best practices, the crew on board ships will still find it easier to bypass the systems rather than to comply with regulations no matter how well trained or informed they are.

With the necessary investments and commitments to best practices, it will become easier for the crew on board ships to comply with regulations, and it will also properly protect the shipowners.

Not support any violation of Marpol 73/78

So how do we encourage or force the industry to act in a responsible manner on something so simple to correct? How can we ensure that this malpractice is stopped and regulate a "zero tolerance" practice?

One suggestion is that first, the International Group of P&I Clubs review their rule books and urgently come to a consensus not to support any violation of Marpol 73/78, even if it can be argued that the shipowner was unaware of this practice (whether it has to do with an illegal discharge or wrong entry into the oily record book). We are in a situation where shipowners have to be responsible and aware of all the practices on board their ships. Furthermore, why should the P&I club memberships support such a fine which is pure negligence on the part of the owner, especially if the investments are not made to correct the deficiencies on board his vessel?

Policy measures to be taken

A second measure is to encourage shipowners to enter into Environmental Protection System/Environmental Management System (EPS/EMS) programs, which are to be audited by governmental approved agencies not associated to any classification society. With these programs in place, as a company, all our vessels are a few steps away from ISO 14 000, a goal we hope to achieve by 2008. Governments, port states and their port authorities perhaps should encourage companies and vessels engaged in such a program by charging normal port costs, while those not

Photo: THE SWEDISH CLUB



An Oily Water Separator is not enough – the layout of the bilge systems and holding tanks must be appropriate.

engaged in such a rigorous environmental program be charged double or triple the port costs!

If our industry is to be taken seriously to be contributing to the betterment of our oceans, and environment, I believe these are some of the policy measures which should be taken as soon as possible. The noble "best practices" guidelines which are currently available or underway, are in my opinion just not sufficient enough to ensure that the ship owning community will take the necessary measures to correct the malpractice that continues everyday in our oceans.

st water treatment now available

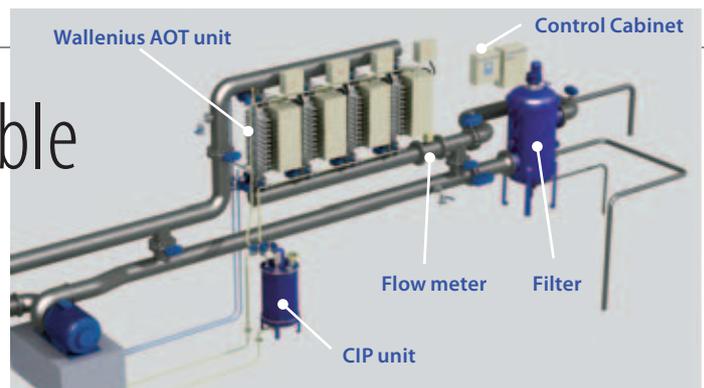
2003 and one of Wallenius' latest deliveries, m/v Aida has received an upgraded system. All Wallenius vessels will have the system installed which will be used to process ballast water without affecting normal operating times.

In 2004, Wallenius Water officially joined forces with Alfa Laval, market leader in separation, heat transfer and freshwater generation to integrate the Wallenius AOT™ technology with Alfa Laval's products. This cooperation has resulted in a joint venture, AlfaWall, now responsible for the PureBallast product.

IMO legislation designed to combat the problem is set to take effect in 2009. Until now, however, no treatment system has been commercially viable or able to meet the proposed requirements without chemicals. PureBallast's chemical-free technology is unique.

Balancing local and global need

In developing PureBallast together with Wallenius Water, Alfa Laval has been careful to look at both local and global requirements. Though the transport of invasive species in ballast water is a worldwide issue, it is individual ships that must carry the solution. Simple installation, a small footprint, operating economy and ease of use are all essential factors that



Systems layout for 1000 m³/h.

are just as important as IMO compliance.

PureBallast, which has met the stringent IMO ballast water requirements in full scale tests, supervised by Det Norske Veritas (DNV), is well underway with the year-long official approval process. Moreover, its ability to perform at sea has been confirmed in three years of full-scale on board tests.

For further information about the PureBallast product, please contact Mr Niclas Dahl, Sales & Marketing Manager, PureBallast, Marine & Diesel
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