Green is the word

Interspeed paint range from International Paint is TBT free (credit: International Paint).

Green issues continued to be at the forefront of discussions within the maritime industry last year. Everything from the developments with ballast water treatments to lower emission vessels and less toxic marine coatings – 2008 has seen it all.

Delays in bringing the International Maritime Organization's (IMO) ballast water convention into force have largely been due to the testing of technologies; such as determining the types of toxicity test information and criteria that are acceptable on sentinel compounds such as bromide, bromates and carcinogenic trihalomethane (THM).

The Marine Environment Protection Committee (MEPC) met for its 58th session in October 2008 and approved a guidance document on arrangements for responding to emergency situations involving ballast water. It also gave final approval to two ballast water management systems that make use of active substances, bringing the total number of systems receiving final approval to four.

In a presentation at the International Shipping Conference organised by the International Chamber of Shipping last October, Marine Manager, David Tongue, concluded that while ballast water management continues to be an important consideration, the problem of transfer of invasive species, harmful aquatic organisms and pathogens also presents a challenge.

Readers will recall details of one of the latest hybrid tugs in development (*Ship & Boat International* November/December 2008 issue), from Foss Maritime, due to be unveiled in San Pedro Bay California on 23 January 2009. Industry analysts and environmental officials alike have praised the low-emission hybrid tug because it will reduce nitrogen oxides, particulate emissions, sulphur dioxide and carbon emissions and will exceed the current United States Environmental Protection Agency's (EPA) Tier II emissions requirements for marine engines.

Development work on the design of a near-zero emission hydrogen power tug is well underway at Dutch companies WorldWise Marine and tug operators Iskes and Smit, with design work originally undertaken by Offshore Ship Designers. The Tugs feature in this issue offers more information about its development.

The International Convention for the Control of Harmful Anti-Fouling Systems on Ships (AFS Convention), adopted in October 2001 by the IMO, and the terms for its entry into force, namely the ratification by 25 States representing 25% of the world's shipping tonnage, became effective from September 2008. Under the Convention, ships are not permitted to apply or re-apply organotin compounds, which act as biocides in their anti-fouling systems. Organotins are chemical compounds based on tin with hydrocarbon substituents. Ships must either not carry such compounds on their hulls, external parts or surface. Ships that already carry the compounds will have to apply a coating that forms a barrier to prevent the compounds leaching from the underlying non-compliant anti-fouling systems.

The anti-fouling paints are used to coat the bottom of ships to prevent sea life such as algae and molluscs from attaching themselves to the hull, which then results in increased fuel consumption and a slower ship speed. The AFS Convention defines anti-fouling systems as "a coating, paint, surface treatment, surface, or device that is used on a ship to control or prevent attachment of unwanted organisms".

The convention applies to all ships sailing under the flag of a party to the convention, as well as ships not entitled to sail under its flag but which operate under its authority, and also to all ships that enter a port, shipyard or offshore terminal of a party. It applies to all vessels, including fixed and floating platforms.

One of the most popular anti-fouling paints, developed in the 1960s, contained the organotin compound tributyltin (TBT), which has since been proven to cause deformations in molluscs.

Nowadays, there are a variety of effective anti-fouling systems available that do not contain TBT, such as organotin-free anti-fouling paints and biocide-free non-stick coatings, which discourage fouling from occurring and make it easier to remove if it does.

With the current global financial situation, it is a widely held opinion that green issues will go to the back of the queue in terms of importance, but given ever-changing legislation and conventions, it is unlikely that these issues will be ignored in the coming year. *SBI*