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ENGINEERING NEWS
REAL ECONOMY NEWS

Bilge-water-treatment system prevents ship bilge pollution

The Crystal Sea, a state-of-the-art bilge-water-treatment system that has successfully met or exceeded the highest guidelines and standards of the US Coast Guard and the International Maritime Organisation's (IMO) Resolution Marine Environment Protection Committee (MEPC) 107 (49) for pollution prevention equipment for ship bilges, is the newest generation of Canadian engineering technology development company Genoil's existing Crystal technology.

This resolution, the company says, requires the separators to process and treat bilge water containing oil and what is called fluid 'C' or surfactant elements, such as emulsionated hydrocarbon, water and detergent, and, after processing, have a water discharge with less than 15 ppm effluent in territorial water and less than 5 ppm for discharge into inland waterways. Every new ship over 200 t being built after January 2007 is requi-red to meet these new standards, it says. Currently, there are 50 000 ships operating worldwide where the new Crystal Sea separator can be installed to replace outdated equipment during maintenance operations.

THE CRYSTAL SEA OPERATOR A state-of-the-art bilge water treatment system that has successfully met or exceeded the highest guidelines and standards

Genoil tested two different size units during the certification testing period using the IMO MEPC 107 (49) required test protocol density effluent mix of oil, surfactants and fresh water, which is harder to separate than sea water. The smallest unit designed for a bilge-water treatment has a flow rate of two gallons for every minute and the largest unit is designed for a flow rate of 20 gallons for every minute. The company also has designs for three additional sizes between the smallest and largest unit at flow rates of

5, 10 and 15 gallons a minute.

The Crystal Sea separators (CSS-2 and CSS-20) achieved below 15 ppm effluent in discharge water before the last stage of separation and below 5 ppm effluent after the last stage of separation. The lower level of effluent in the discharge water after the last stage of separation allows ships traveling in inland waterways and in Canada to treat and discharge bilge water in an area designated for 5 ppm or below effluent in the discharge water. Having been tested at a 22,5-degree incline, the Crystal Sea is operable at sea and on intercoastal water- ways.

Genoil says that its new Crystal Sea separator is very simple to operate, does not require backwashing or flushing with fresh water or sea water, and has a three to six times smaller footprint than other technologies. Further, with the exception of a pump, the new separator has no moving parts, requires no chemicals, uses very little power, and the oil removed is dry enough and of a quality that it can be reused by other utilities aboard, it says. In fact, there is no discharge of other materials other than the clean water back to sea, the company concludes.