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## Protecting oceans and seas: Stowaways are in for it now

### Two new ballast water disinfection systems made in Germany granted international recognition

**The International Maritime Organization (IMO) has approved two onboard disinfection systems for ballast water developed in Germany. The IMO's Marine Environment Protection Committee (MEPC) granted international approval of the new processes on 17 July 2009, and type approval in Germany can now follow. There is now a total of 30 ballast water disinfection systems worldwide. Germany, in addition to Japan and South Korea, are leaders in this market. UBA Vice President Holzmann welcomed the decision, saying, "Modern disinfection processes for ballast water are important as they brake the global spread of invasive animal, plant and bacteria species. This is a great step towards establishing ecological balance in oceans and seas." According to a study by Germanischer Lloyd, the 2010 production capacity in Germany alone could produce some 800 systems.**

Conservative estimates claim that ships pump around 10 billion cubic metres of water annually into special ballast tanks for stability and to navigate the world's oceans safely. Ballast water stabilises ships and prevents deformation of the ship's hull when it is only partly loaded. Bacteria, algae, crabs, and even fish become stowaways as ballast water is introduced to the tanks. They are thus spread around the globe and can displace other native organisms. This not only jeopardises the marine environment, it can also cause considerable economic losses, for example in the fishing industry when invasive jellyfish consume native fish or fish larvae's food supply. Diseases such as cholera, harmful to human health, can also be introduced by untreated ballast water. One of the IMO's main focus areas to protect the oceans is to combat the of spread of invasive species.

In order to prevent further pollution of the oceans by ballast water stowaways, the IMO adopted the International Convention for the Control and Management of Ships' Ballast Water and Sediments in 2004 (BWM Convention). It must be ratified by 30 states representing 35 per cent of world merchant shipping tonnage for the Convention to enter into force. As of April 2009 only 18 states, representing some 15 percent of merchant shipping tonnage, had ratified the Convention. Germany, one of the key actors in drawing up this international regulation, has not as yet ratified the BWM Convention. The federal government's initial step was to amend the Federal Maritime Responsibilities Act (Seeaufgabengesetz - SeeAufgG) in April 2008 which

establishes standards in ballast water disinfection. UBA Vice President Holzmann commented, "Germany should move quickly to ratify the BWM Convention so that it can enter into force soon and finally become internationally binding."

Experts around the world are working to develop new ballast water management systems (BWMs). A ballast water management system must meet strict criteria prior to approval for in addition to economic and ship safety considerations, environmental protection also plays an important role. The approval of systems is a federal responsibility in some states, but systems that apply biocides to disinfect the water require international approval by the IMO. There are now a total of 19 ballast water treatment systems worldwide which have cleared the first hurdle of the two-tier so-called Basic Approval procedure. A total of eleven systems have passed the second tier, or Final Approval, procedure.

At the MEPC meeting held on 17 July 2009, the CleanBallast® BWM system by the RWO company received Final Approval, making it the second system made in Germany after the SEDNA®-System developed by the Hamann company to meet this requirement. A third German system, the AquaTriComp®-System by Aquaworx, received Basic Approval at the meeting. Unlike the other two systems, this system does not apply any disinfectant agents; instead UV light disinfects the water after filtering. Final certification of these systems, type approval, can now be initiated by German public authorities. Germany, Japan and South Korea are world leaders in terms of received approvals. German companies are well-placed on the global market. UBA assesses the risks to the environment posed by the chemicals used for disinfection, as the oceans must also be protected against the risk of pollution with ballast water treated with disinfectant agents. UBA and other associated authorities, including the Federal Maritime and Hydrographic Agency of Germany (BSH) in charge, were key actors within the IMO to steer towards more rigorous internationally applicable guidelines concerning ballast water treatment. "I am pleased that our recommendations for strict guidelines governing the environmental risk assessment of ballast water management systems were significant in shaping the international regulations", said Thomas Holzmann.

More information is available at:

<http://www.umweltbundesamt.de/wasser/themen/meere/ballastwasser-uebereinkommen.htm>.

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