

Treatment Measures

PREVENTIVE TREATMENT AND CONTROL TECHNIQUES FOR BALLAST WATER

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Abstract

It is apparent that no single or simple universal solution presently exists for shipboard treatment or management to prevent the transfer of viable non-native organisms in ballast water. Only a very limited number of the treatment options listed below has been shown to be 100% effective (and only for some specific organisms in some cases), environmentally sound, cost effective and safe during application. Several technologies (including the widely recognised forms of water exchange currently in use throughout the world) or a combination of technologies (tool box) may however, be at least partially effective and feasible in terms of economic and shipboard constraints. Currently heat treatment, mechanical removal of organisms in combination with UV treatment, and chemical treatment of ballast water are considered the most promising approaches. However, concerns have been expressed regarding residual environmental polluting components, health and safety problems related to storage of chemicals and compatibility with cargo carried on board as well as direct and indirect handling of chemicals by crew members. Given the global nature of shipping and therefore the transport of non-native organisms in ballast water, the International Maritime Organization (IMO) and various countries, are considering the adoption of a Ballast Water Convention, which would include a technical effectiveness standard that would form the initial basis for acceptance of the various treatment options. The IMO Convention would aim to achieve a standard approach to ballast water management but in the meantime some countries, such as Australia, have introduced their own ballast water regulations. It is important that ongoing research and development aimed at developing and demonstrating existing and new treatment techniques be maintained in order that the IMO can incorporate the best available technology into the proposed convention. In summary, there is no current "stand-alone" treatment option, that covers all possible scenarios. However, a combination of methods could result in cost-effective management options.