



Maritime and Coastguard Agency

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## **The Control and Management of Ships' Ballast Water and Sediments**

**Notice to all Agents, Owners, Operators, Masters and Officers of Ships**

*This notice should be read with MGN 81, MIN 282 & MIN 283 and replaces MIN 305*

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### **PLEASE NOTE:-**

Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position.

### **Summary**

- This note draws attention to the developments at the International Maritime Organization with respect to non-indigenous species being transported in ships ballast water.
- This MGN has been written due to the adoption of an International Convention in February 2004, and the development of new supporting Guidelines. The MGN provides information and interim guidance for use until the Convention has been implemented and the UK ratifies the Convention, after developing domestic legislation.

### **1. Introduction/ Background**

1.1. Loading and discharging ballast water is an essential part of a ships operation, with large ships requiring many thousands of tonnes of water to maintain their stability, draft and manoeuvrability. Contained within this ballast water are hundreds of microscopic species that will be carried to new destinations by the ship. The vast majority of these species will not survive the journey; however, the species that do survive may establish themselves in a new environment if the biological and physical conditions are favourable. Such non-native species may cause serious ecological, economic and public health impacts, particularly when they become invasive.

1.2. In response to this the International Maritime Organization (IMO) through its Marine Environment Protection Committee (MEPC), has over many years, been developing international legislation to prevent the harmful effects of transporting aquatic organisms in ships ballast water.

## 2. IMO Convention

2.1. Over 9-13 February 2004 a Diplomatic Conference was held to adopt the “International Convention for the Control and Management of Ships’ Ballast Water and Sediments”. The Ballast Water Management (BWM) Convention puts in place international legislation for the first time and will enter into force 12 months (with a first application date of 2009) after it has been signed by 30 States, representing 35% of world merchant shipping tonnage.

2.2. As of 25<sup>th</sup> June 2007, ten countries have ratified the BWM Convention, amounting to 3.42% of world tonnage. Member States have been urged to ratify the instrument to facilitate its timely entry into force. The UK is intending to begin the process of ratifying the Convention as soon as it has been proved that technology is available to meet the water quality standards under Regulation D-2.

2.3 The Convention provides two ballast water discharge performance standards for the industry – the first providing a standard for ballast water exchange and the second based on ballast water treatment. These are set out below:

- **D1 Standard** - Ballast Water Exchange (at least 95% volumetric exchange) or if using the pump through method - pumping through three times the volume of each tank.
- **D2 Standard** - Ballast Water Treatment systems approved by the Administration which treat ballast water to an efficacy of:
  - less than 10 viable organisms per m<sup>3</sup>  $\geq$ 50 micrometres in minimum dimension, and
  - less than 10 viable organisms per millilitre < 50 micrometres in minimum dimension and  $\geq$ 10 micrometers in minimum dimension.

Indicator Microbe concentrations shall not exceed: a) toxicogenic vibrio cholerae: 1 colony forming unit (cfu) per 100 millilitre or 1 cfu per gram of zooplankton samples; b) Escherichia coli: 250 cfu per 100 millilitre c) Intestinal Enterococci: 100 cfu per 100 millilitre.

These then apply to different vessels at different times as set out in the table below, depending on the ratification date of the Convention.

Ballast Capacity (m <sup>3</sup> )	Construction Date	Application Dates of the D1 and D2 Standard									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	
<1500	Before 2009*	D1 or D2							D2		
	In/After 2009	D2									
$\geq$ 1500 $\leq$ 5000	Before 2009*	D1 or D2					D2				
	In/After 2009	D2									
> 5000	Before 2012*	D1 or D2							D2		
	In/After 2012	D2									

\* Needs to be applied by the First Intermediate or Renewal Survey, which ever occurs first after anniversary date of delivery in the year indicated.

**Table 1: Implementation dates of the IMO Ballast Water Convention**

2.4. The main requirements of the BWM Convention include the following principles:

- i). ships should carry and implement a ballast water management plan that has been approved by the Administration, which must detail safety procedures for the ship and crew, and provide a detailed description of the actions to be taken to implement the ballast water management requirements. It should be noted that for UK Flagged Ships this Ballast Water Management Plan approval will be delegated to Class Societies;
- ii). ships should carry a Ballast Water Record Book, which must be completed after each ballast water operation;
- iii). the phased implementation of two ballast water discharge performance standards (please see paragraph 2.3), the application dates of which are based on the ships ballast water capacity and its construction date. This approach means that ballast water exchange as a management method will be replaced by treatment to meet stringent water quality standards as suitable technologies become available;
- iv). ships undertaking ballast water exchange should conduct it at least 200 nautical miles from the nearest land and in water at least 200 metres in depth; or in cases where the ship is unable to conduct ballast water exchange in accordance with the above, as far from the nearest land as possible, and in all cases at least 50 nautical miles from the nearest land and in water at least 200 metres depth;
- v). ships performing ballast water exchange, should do so with an efficiency of at least 95% volumetric exchange of ballast water. For ships exchanging the ballast water by the pumping-through method, pumping through three times the volume of each ballast tank will be considered equivalent to meeting the 95% standard; and
- vi). ships treating ballast water should adhere to a specific performance standard (the D-2 Standard), which sets stringent levels of organisms by volume in ships' ballast water discharges.

2.5. Upon ratification the Convention and supporting Guidelines will supersede the IMO's Resolution A.868 (20) which adopted the 1997 "Guidelines for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens" (the 1997 Guidelines), which are the subject of MGN 81.

2.6. As it will be 2009 at the earliest before the Convention comes into force and the Guidelines are fully developed and in place, shipping agents, ship owners and masters of UK Flag vessels are strongly urged to comply with the operational guidance in the 1997 Guidelines and begin preparing and implementing for the requirements the new IMO Convention and its supporting Guidelines. Specifically the interim D-1 Standard and the requirement to exchange ballast water 200 nautical miles from the coastline in waters 200m deep where possible (see 2.8 bullet 4). The 1997 Guidelines are available from the IMO website at: <http://globallast.imo.org/resolution.htm>

2.7. The overall objectives of the 1997 Guidelines are to assist Governments and appropriate authorities, ship masters, operators and owners, and port authorities in minimising the risk of introducing harmful aquatic organisms and pathogens from ships' ballast water and associated sediments while protecting ships' safety. Advice is given on the procedures for ships and port States, such as recording and reporting; ships' operational procedures, including precautionary practices; training and education; and enforcement and monitoring by port States.

2.8. Masters are advised to contact destination ports to ascertain any local requirements relating to ballast water discharge and to make themselves aware of different countries' ballast water management requirements (please see MIN 282 and MIN 283, which contain some of these requirements).

### 3. Convention Guidelines

3.1. Fourteen Guidelines are being developed in support of the Convention:

<b>Guideline</b>	<b>Title</b>
G1	Guidelines for Sediment Reception Facilities.
G2	Guidelines for Ballast Water Sampling.
G3	Guidelines for Ballast Water Management Equivalent Compliance.
G4	Guidelines for ballast water management and development of ballast water management plans.
G5	Guidelines for Ballast Water Reception Facilities.
G6	Guidelines for Ballast Water Exchange.
G7	Guidelines for Risk Assessment under Regulation A-4.
G8	Guidelines for approval of ballast water management systems.
G9	Procedure for Approval of Ballast Water Management Systems that make use of Active Substances.
G10	Guidelines for approval and oversight of prototype ballast water treatment technology programmes.
G11	Guidelines for ballast water exchange design and construction standards.
G12	Guidelines for sediment control on ships.
G13	Guidelines for additional measures including emergency situations.
G14	Guidelines on designation of areas for ballast water exchange.

**Table 2: Guidelines developed to support the IMO Ballast Water Convention**

3.2. These new Guidelines will provide Flag Administrations and Port State Authorities with guidance on procedures and principles to minimise the risk of transferring harmful aquatic organisms in ships' ballast water and sediments and how to be in compliance with the Convention. The progress of the Guidelines is high priority, as they are being developed for the uniform implementation of the Convention and the majority are now completed. All the finalised guidelines will be made available on the MCA Website: [www.mcga.gov.uk](http://www.mcga.gov.uk)

3.3. The two most significant guidelines – Guideline (G8) Approval of Ballast Water Management Systems and Procedure (G9) Procedure for Approval of Ballast Water Management Systems that make use of Active Substances, were adopted at Marine Environment Protection Committee (MEPC) 53 in July 2005. They provide guidance to manufacturers and/or ship owners on the type approval procedures for ballast water treatment systems.

3.4. Within the UK Type Approval of Ballast Water Management Systems and Ballast Water Management Plans will be delegated to the Class Societies and will be the subject of a separate MIN. As some countries already require vessels entering their waters to have approved Ballast Water Management Plans, the MCA recommends that ship owners should approach their Class Society to begin developing such plans at the earliest possible opportunity.

### 4. The Review of the Convention

4.1. Regulation D-5 of the Convention states that a review of the Convention must take place three years before Regulation D-2 (the discharge standard for treated ballast water) comes into effect.

As this date is 2009, the review took place during MEPC 53 in July 2005 to meet the 2006 deadline. At this meeting, a Review Group was established to determine whether appropriate treatment technologies will be available to achieve the performance standard by 2009.

4.2 The Review process was concluded at the IMO's Marine Environment Protection Committee (MEPC) meeting in July 2007 (MEPC 56). The review concluded that a limited number of technologies will be available for ship's that are required to meet the first dates of the Ballast Water Management Convention (as described in Regulation B3.3) and recognised a number of practical problems that may delay the availability of suitable technology. Furthermore, it concluded that the available technology may not be sufficient or technically appropriate, for all ships applying the Convention in 2009 to meet the D-2 Standard. Nevertheless, it was also concluded that there would be sufficient technology for all ships having to apply the Convention in 2009 and 2010, to meet the D-2 Standard in 2010 or 2011, if not sooner. The IMO are now considering whether this conclusion should effect the implementation dates of the Convention at BLG 12 and MEPC 57 and the conclusions of this debate will be the subject of a Marine Information Note (MIN) in due course.

## 5. Ballast Water Management in the North East Atlantic

5.1. Over the last three years the UK has been developing a regional Ballast Water Management Strategy for the North East Atlantic, as part of their commitments to the Fifth North Sea Ministerial Conference held in Bergen in March 2002, and the Sixth North Sea Ministerial Conference held in Göteborg in May 2006. The role of the Strategy is to enable interim procedures to reduce the risk of alien species invasion through ballast water to be implemented in the most efficient and sustainable way within the North East Atlantic prior to the IMO Convention coming into force. This strategy is aimed at risk reduction rather than risk elimination and has been developed through the Committee of North Sea Senior Officials (CONSSO) – Issue Group on Sustainable Shipping (IGSS) and the Biodiversity Committee of The Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention").

5.2. A scoping study has been undertaken as the 1<sup>st</sup> Phase of this Strategy. This document investigated how the problems and risks of alien species invasions through ballast water discharges could be managed in the OSPAR Region. It also looked at the difficulties in implementing a regional management plan in the North East Atlantic as well as the environmental data and monitoring strategies needed to do so.

5.3 It is planned that Phase 2 of the Strategy will be put into action in late 2007. This will involve further technical studies, baseline data collection and risk modelling, which will be based on the findings of the scoping study. It is envisaged that phase 2 will take place over a two year time scale from 2007-2008 and provide guidance for vessels in two tranches:

- **Tranche 1:** Developing and applying voluntary interim guidelines for shipping entering the North East Atlantic - that can be achieved through ballast water exchange. **Target Date: Autumn 2007.**
- **Tranche 2:** Identifying high risk voyages through a risk assessment based management approach to short sea shipping within distinct bioregions and providing guidance on appropriate management measures to reduce this risk. **Target Date: Autumn 2008** subject to obtaining funding for baseline technical studies.

5.4 Further information on these proposals can be found on the MCA website and will be the subject of a MIN in due course.

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