

UK P&I CLUB



Legal Briefing

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ENVIRONMENTAL LAW

Ballast Water Management Convention 2004 – an update

UK P&I CLUB
IS MANAGED
BY **THOMAS
MILLER**

About us

This briefing is one of a continuing series which aims to share the legal expertise within the Club with our Members

A significant proportion of the expertise in the Managers' offices around the world consists of lawyers who can advise Members on general P&I related legal, contractual and documentary issues.

These lawyers participate in a virtual team, writing on topical and relevant legal issues under the leadership of our Legal Director, Chao Wu.

If you have any enquiries regarding the issues covered in this briefing, please contact the team via Chao Wu (chao.wu@thomasmiller.com or +44 20 7204 2157) and we will be pleased to respond to your query. The team also welcomes suggestions from Members for P&I related legal topics and problems which would benefit from explanation by one of these briefings.

All footnote references appear on page 11.

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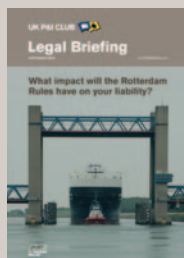
Front cover:

Caulerpa Taxifolia is a species of seaweed which spreads horizontally above the sea floor. The algae is one of two species on the list of the world's 100 most invasive species.

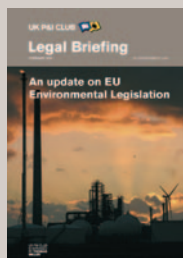
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November 2010



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March 2011

Ballast water management convention 2004 – an update

This legal briefing follows on from our earlier legal briefing “New regulations for the control of ships’ ballast”.

When will the Convention come into force?

The Convention will come into force twelve months after thirty states representing 35 per cent of the world’s merchant shipping tonnage have signed it without reservation or have ratified it.

Thirty six states which have ratified the Convention to date, representing approximately 29 per cent of the 35 per cent required. The remaining 6 per cent are expected to be obtained soon.

MEPC Guidelines

In addition to the Convention, the IMO Marine Environment Protection Committee (MEPC) have developed and adopted a series of “Guidelines” to facilitate the implementation, uniform interpretation and application of the Convention. The Guidelines are an important supplement to the Convention.

- G1** Sediment reception facilities;
- G2** Ballast water sampling;
- G3** Ballast water management equivalent compliance;
- G4** Ballast water management and development of ballast water management plans;
- G5** Ballast water reception facilities;
- G6** Ballast water exchange;
- G7** Risk assessment under regulation A-4 of the BWM convention;
- G8** Approval of ballast water management systems;
- G9** Procedure for approval of ballast water management systems that make use of Active Substances;

- G10** Approval and oversight of prototype ballast water treatment technology programmes;
- G11** Ballast water exchange design and construction standards;
- G12** Design and construction to facilitate sediment control on ships;
- G13** Additional measures regarding ballast water management including emergency situations;
- G14** Designation of areas for ballast water exchange

Steps towards compliance

There are many stages to compliance and shipowners are urged to start familiarising themselves with the requirements of the Convention if they have yet to do so.

The cost of compliance is very high and the necessary finance will therefore need to be organised. A ballast water treatment system can cost from half a million to four million dollars. In addition to the cost of the actual system, there will also be ancillary costs such as the cost of developing a ballast water management plan, drydocking cost and installation cost.

We will briefly discuss the following steps towards compliance:

1. Understanding the standards of compliance
2. Develop a ballast water management plan
3. Select and install a ballast water treatment system
4. Develop training for ship’s staff
5. Survey, certification and inspection

1. Understanding standards of compliance

Regulation B-3 of the Convention sets out a time table for the application of two standards of compliance to different categories of ships, based upon the date of construction of the ships and the ballast water capacity of the ships.

These two standards are set out in Regulation D-1, a ballast water exchange standard (BWE), and Regulation D-2, a ballast water performance standard (BWP). The BWE standard does not require the ship to install a treatment system whereas the BWP standard does. The BWE standard is intended to be an interim standard only and will be phased out by 2019¹.

Regulation B-3 allows for alternatives to the BWE and the BWP methods provided that these alternative methods ensure at least the same level of protection to the environment, human health, property or resources and are approved in principle by the MEPC.

Parties to the Convention can, individually or jointly with other parties, impose additional measures on ships to prevent, reduce or eliminate the transfer of harmful aquatic organisms and pathogens through ships' ballast water and sediments. The IMO must be notified of any intention to establish additional measures at least six months prior to the projected date of implementation of the measures when appropriate, the IMO's approval of such measures must be obtained. Adjoining or nearby states that may be affected by such standards or requirements should also be consulted.

It is important for shipowners to note that a ballast water management system ("BWMS") complying with the D-2 standard may still fall foul of more stringent standards set in other jurisdictions such as the US. Shipowners who trade to these jurisdictions must therefore install systems that can achieve the higher standards set in these jurisdictions.

As the Convention is not yet in force, the time table for compliance in Regulation B-3 cannot be enforced, and it was unclear until very recently how this time table would be enforced once the Convention comes into force. The MEPC 65² has however now agreed a revised schedule of implementation and all States have been recommended to work to this revised schedule.

2. Develop a Ballast Water Management Plan

The Convention requires each ship to have a ballast water management plan ("Plan") which is tailored to the particular ship. A standard format for such a plan is provided in the guidelines (G4). The Plan should include a description of the ballast system and how the system is to be operated, safety procedures for the ship and crew and details of the procedures for managing ballast and sediment onboard and for the disposal of sediment.

The Plan should also include the name of the designated Ballast Water Management Officer. The responsibility of this officer is to ensure that the details of all ballast water operations are recorded in a Ballast Water Record Book ("the Record Book"). Such details should include the circulation or treatment of the ballast water for ballast water management purposes, any discharge into the sea or to a reception facility and any accidental or other exceptional discharges as well as any exemptions granted.

The Plan should be simple, realistic, practical, easy to use and understood by ship's personnel engaged in ballast water management on board and ashore.

The Plan is to be written in the working language of the crew. If this is not English, French or Spanish, then the Plan is to include a translation into one of these languages.

Once the Plan is completed, it will have to be approved by the Administration³ or a recognised organisation (such as Class). The MEPC 64⁴ has agreed that once a Plan has been submitted for approval and the shipowner has received a statement confirming receipt, the ship can trade for up to three months from when the Convention comes into force with an unapproved Plan on board.

Countries including Australia, Brazil, Canada, New Zealand, Norway, Ukraine and the USA have implemented national legislations requiring ships entering their waters to have approved ballast water management plans. It is hoped that once the Ballast Water Management Convention 2004 comes into force, all these local provisions will be harmonized along the provisions of the Convention.

Both the Plan and the Record Book must be kept onboard and be readily available for inspection by authorized officers.

3. Selecting a Ballast Water Treatment System

When we issued our last briefing, a major concern for shipowners was that new BWMS were not being approved sufficiently quickly, thus limiting choice. Today, with over 30 'type approved' treatment systems available, the dilemma facing shipowners is a rather different one, i.e. how to choose a system from amongst the many available?

A ballast water treatment system ("BWTS") may use active substances (defined as substances or organisms that have a general or specific action on or against harmful aquatic organisms and pathogens), chemical disinfection (eg. chlorination, ozonation) or physical disinfection (eg. UV irradiation, heat, deoxygenation).

Regulation D-3 stipulates that ballast water management systems must be approved by the Administration, taking into account the Guidelines for approval of ballast water management systems (G8). A G8 type approved system must be capable of achieving the standard of Regulation D-2 in land based and shipboard evaluations throughout the life of the ship and it must not cause unacceptable harm to the ship, crew, the environment or public health. In the UK, type approval of BWMS has been delegated to classification societies.

Type approval is not however an indication that the system will work on all ships or in all situations.

Regulation D-4 provides ships participating in a programme approved by the Administration to test and evaluate promising prototype ballast water treatment technologies with a leeway of five years before having to comply with the requirements in regulation D-2.

A shipowner will be constrained in his choice of a system by considerations such as availability of space onboard, sufficiency of energy required to operate the system, compatibility of the system with existing systems on board, safety of the system for the trade engaged in, safety of the crew, the time available for operating the system in the particular trade as well as the time for and the cost of installing the system.

Depending upon the compatibility of the selected system with the system already on board, two to eight weeks may be required for installing the system and such time will need to be found in the ship's trading schedule.

4. Develop training for ship's staff

Once a BWTS has been selected and fitted, the shipowner must ensure that the crew are properly trained to operate the system. The Convention requires officers and crew to be familiar with their duties in the implementation of ballast water management for the ship on which they serve.

A detailed staff training scheme will need to be developed and included in the ballast water management plan. The master must ensure that the Plan is clearly understood by the appointed Ballast Water Management Officer and by any other ship's staff and personnel that may be involved in managing the ballast water management system.

The crew must understand the requirements of the Convention and be trained in their obligations under the Convention. The training programme for the crew should include but not be limited to explanations on:

- the need for ballast water and sediment management,
- the need for record keeping,
- the ballast operations on board the ship,
- the maintenance of the installed ballast water management system,
- the safety aspects associated with the particular system,
- the procedures used onboard the ship which may affect the safety or human health of the crew and passengers and/or the safety of the ship,
- the need to take precautions for entering tanks for sediment removal,
- how to handle, package and store sediment safely,
- the ship/ port communication interface, and
- the need to have an understanding of local disposal facilities and regulations.

5. Survey, Certification and Inspection

The flag state will require the ship to undergo a number of surveys to show that the ship's construction, equipment and management system all comply with the Convention's requirements. Details of these surveys are to be found under Regulation E-1.

Initial Survey

Once all preparations for compliance are complete, an initial survey of the ship has to be arranged for the approval of the BWMS.

This survey is to verify that the ballast water management plan and any associated structure, equipment, systems, fittings, arrangements and material or processes comply fully with the requirements of this Convention.

If the initial survey is satisfactory, an International Ballast Water Management Certificate or Certificate of Compliance is issued to the ship.

Renewal Survey

The flag state may specify for a renewal survey to be held at intervals not exceeding five years to verify that the ballast water management plan and any associated structure, equipment, systems, fittings, arrangements and material or processes all comply fully with the requirements of the Convention.

Intermediate survey

This survey will take place within three months before or after the second or third anniversary date of the compliance certificate to ensure that the equipment, associated systems and processes for ballast water management fully comply with the applicable requirements of the Convention and are in good working order. This survey shall take the place of one of the annual surveys.

Annual Survey

The annual survey is to be carried out within three months before or after each anniversary date. This survey will include a general inspection of the structure, any equipment, systems, fittings, arrangements and material or processes associated with the ballast water management plan to ensure that they have been properly maintained and remain satisfactory.

Additional Surveys

This can be a general or partial survey made after a change, replacement or significant repair to the

BWMS to ensure that such has been carried out correctly.

Port State Control Inspections

Port State Control officers can inspect a ship to verify that the ship has a valid certificate, inspect the ship's Ballast Water Record Book and/or sample the ballast water. If any concerns are raised, a detailed inspection may be carried out and the Party carrying out the inspection shall take such steps as will ensure that the ship shall not discharge ballast water until it can do so without presenting a threat of harm to the environment, human health, property or resources.

It is provided in Article 12 that all possible efforts shall be made to avoid a ship being unduly detained or delayed, and in the Guidelines (G2) that the time needed for analysis of samples shall not be used as a basis for unduly delaying the operation, departure or movement of the ship. Article 12 goes on to provide that when a ship is unduly detained or delayed, it shall be entitled to compensation from the Port State carrying out the inspection for any loss or damage suffered.

What happens when the convention comes into force?

Shipowners' concerns

Shipowners have many concerns about the Ballast Water Management Certificate and how it will affect them once it comes into force. The following concerns were among those highlighted in a paper submitted to the MEPC 64.

Uncertainty over how the implementation schedule in the Convention would apply once the Convention comes into force. Until the Convention actually comes into force, the implementation schedule in Regulation B-3 can neither be enforced nor amended. Would the implementation schedule become mandatory retroactively requiring existing ships to retrofit ballast water management systems?

Will the type-approved BWTS actually work once it is installed? Are the tests criteria for these systems sufficiently rigorous?

Many questions about the taking of representative samples and the accuracy of sample analysis

remain unanswered. There is the potential for samples taken from type-approved BWTS to be non-compliant.

Are there enough yard facilities for installing the BWTS?

How will sanctions under the Convention be applied? Party States will be responsible for enforcing the Convention in respect to ships registered under their own flags and ships entering their jurisdictional waters. The Convention provides for ratifying States to establish sanctions under the laws of the States which laws should be adequate in severity to discourage violations. The concern is that there will be no uniform application, interpretation and enforcement of the Convention requirements or a standard level of sanctions imposed by Party States.

Will the Convention apply automatically or will each State Party to the Convention have to pass a domestic law to bring the Convention into force? If the latter is the case, then the Convention will come into effect at different times in different states.

The MEPC 65 (13-17 May, 2013)

The MEPC 65 has sought to address some of the above concerns and challenges. It has now agreed to a rescheduling of the Convention implementation dates, a trial period for port state control and new guidance on BWMS type approvals.

The new installation schedule is pinned to the entry into force date of the Convention. It considers all ships constructed before entry into force as existing ships. These existing ships will then have until their first renewal survey⁵ after the Convention enters into force to install a BWMS. This will facilitate the smooth implementation of the Convention.

The revised schedule is detailed in an IMO Resolution which is expected to be adopted only at the IMO's Assembly in November 2013. It is, however, largely understood that this final draft will be unchanged. All governments are recommended to use the revised scheduling as opposed to the scheduled dates in the Convention.

This rescheduling avoids legal problems associated with revising a Convention which has yet to enter into force. It will assist in providing time to



Mnemiopsis leidyi (Comb Jelly)

Invasion of the Caspian Sea by *Mnemiopsis* caused a dramatic drop in fish populations by competing for the same food sources and eating the young and eggs.



Shore Crab (European Green Crab)

Is a highly adaptable and invasive species, native to North East Atlantic Ocean and the Baltic sea but has colonised similar habitats in Australia, South America and both Atlantic and Pacific coasts of North America. The species is resistant to predation due to its hard shell.



Toxic Algae

Several species of toxic algae have been transferred to new areas in ships ballast water. The algae can cause death of marine life through oxygen depletion and release of toxins. Some species may contaminate filter feeding shellfish. Human consumption of contaminated shellfish may cause severe illness and death.

overcome some of the concerns and challenges mentioned above such as the lack of available yard facilities, the robustness of the type approval system, and the readiness of the port state control enforcement (sampling and testing) regime.

A trial period for port state control and sampling has also been agreed. Port State Control will refrain from detaining a ship or taking criminal sanctions in the event that a BWMS does not meet the discharge standards. This will allow time for Port State Control to determine which sampling and testing techniques work in practice and will also allow the industry to identify any further problems associated with the operation of type approved BWMS.

The type approval process is also to be made more transparent. Amendments may be made to the type approval certification documents and to the guidance to Administrations on the type approval process. This will make available more information to the industry and to shipowners on the capabilities and limitations of the BWMS and the conditions in which the systems can operate.

Conclusion

There is strong support for the Ballast Water Management Convention because the evidence of damage caused to the environment by invasive alien species, the adverse effect this has on human livelihoods such as depleting native fish stocks, and the high cost of controlling the adverse effects can no longer be ignored. However, the high economic costs to shipowners introduced by this Convention coupled with a lack of confidence that the equipment and procedures proposed by the Convention can actually effectively overturn the abovementioned adverse effects probably explains why the rush to ratify the Convention has recently slowed down.

The Convention is nevertheless expected to come into force in the not too distant future. Whilst the MEPC 65 and the revised implementation schedule have now given shipowners some breathing space, it would still be prudent for shipowners to start getting to know the requirements of the Convention if they have yet to do so, so that they do not find themselves unprepared when the Convention comes into force.

The UK P&I Club have set up an International Environmental Compliance page⁵ on our website, and members are directed to this page for additional information.



Eriocheir sinensis Known as the Chinese Mitten Crab, Big Sluice Crab or the Shanghai Hairy Crab, this is a medium-sized burrowing crab with furry claws that look like mittens, hence the name. It is native to East Asia but has been introduced to Europe and North America where it is considered one of the world's worst invasive species.

US standards for ballast water

The US Coast Guard has established a standard for the allowable concentration of living organisms in ballast water discharged from ships in United States waters. Jonathan K. Waldron explains.

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The Coast Guard's Final Rule on the Standards for Living Organisms in Ship's Ballast Water Discharged in US Waters was issued on March 23, 2012 in the Federal Register, Volume 7, No. 57 and became effective 90 days after publication, on June 21, 2012. A copy of the Final Rule is available at www.gpo.gov/fdsys/pkg/FR-2012-03-23/html/2012-6579.htm.

Current ballast water management regulations require all ships operating in US waters to conduct an exchange of ballast water at least 200 nautical miles from shore prior to discharge of ballast water in US port or conduct treatment, in addition to sediment and fouling management. As a result of the new regulations regarding ballast water management, set forth in 33 C.F.R. Part 151 and 46 C.F.R. Part 162, the Coast Guard established a standard for the allowable concentration of living organisms in ballast water discharged from ships in waters of the United States. The Coast Guard also amended its regulations for engineering equipment by establishing an approval process for ballast water management systems.

The options for ballast water management methods, require "a vessel equipped with ballast tanks that operates in the waters of the United States" to employ one of the following ballast water management methods:

- Install and operate a ballast water management system ("BWMS") that has been approved by the Coast Guard;
- Use only water from a US public water system;
- Perform complete ballast water exchange in an

area 200 nautical miles from any shore prior to discharging ballast water, unless the vessel is required to employ an approved BWMS in accordance with the attendant implementation schedule. An alternate management system ("AMS") may also be used provided it was installed on the vessel prior to the date that the vessel is required to comply with the BWMS installation schedule;

- Do not discharge ballast water into US waters;
- Discharge to a facility onshore or to another vessel for purposes of treatment.

Generally, vessels required to comply with these ballast water management requirements include "all non-recreational vessels, US and foreign, that are equipped with ballast tanks and operate in the waters of the United States..." Vessels exempt from the ballast water management requirements include:

- Crude oil tankers engaged in coastwise trade;
- Vessels that operate exclusively within one Captain of the Port (COTP) Zone;
- Seagoing vessels that operate in more than one COTP Zone, do not operate outside the EEZ, and are less than or equal to 1,600 gross register tons or less than or equal to 3,000 gross tons;
- Non-seagoing vessels;
- Vessels that take on and discharge ballast water exclusively in one COTP Zone

The Coast Guard's Final Rule requires vessels equipped with ballast tanks that operate on the waters of the United States to install an approved ballast water management system by the implementation schedule. The ballast water exchange method will only be allowed until the implementation deadlines for treatment systems. After that date, the option to conduct mid-ocean exchange as ballast water management method is limited to those vessels that are not required to employ an approved ballast water management system. The Coast Guard may allow the use of ballast water exchange as a contingency in the case of an emergency.

Implementation schedule for the USCG ballast water treatment standard

	Vessel's ballast water capacity	Date constructed	Vessel's compliance date
New vessels	All	On or after 1 December 2013	On delivery
Existing vessels	Less than 1500 m ³	Before 1 December 2013	First scheduled drydocking after 1 January 2016
	1500 – 5000 m ³	Before 1 December 2013	First scheduled drydocking after 1 January 2014
	Greater than 5000 m ³	Before 1 December 2013	First scheduled drydocking after 1 January 2016

Above is the implementation schedule for the approved ballast water management methods.

Ballast water treatment must be conducted using either a Coast Guard type-approved system or a system type-approved by another Administration which the Coast Guard has accepted, referred to Alternate Management System (“AMS”). At this time, the Coast Guard has approved 10 AMS. A vessel with an AMS installed may use that ballast water management system for a period of five years beyond the date when the vessel would otherwise be required to comply with the Coast Guard ballast water discharge requirements noted in the above table.

The treatment standard enforced by the Coast Guard is the same as the IMO Ballast Water Management Convention D-2 Standard.

At this time, certain US states, have implemented performance standards above those provided for in the Coast Guard's Final Rule. For example, the

New York State ballast water regulations require a performance standard that is 100 times more stringent than the IMO BWMS standard. The deadline for compliance with the New York State ballast water regulations was originally January 1, 2013, however, this deadline has been pushed back to August 1, 2013 due to a lack of available technology to meet this stringent standard. It is unclear at this time whether New York will modify this deadline.

With regard to the Great Lakes, commercial vessels over 1600 GRT that operate in the EEZ prior to entering the Great Lakes are “seagoing vessels” and therefore must meet these new ballast water management requirements. For vessels operating solely within the Great Lakes and the Canadian EEZ, and that are less than or equal to 1,600 gross registered tons or less than or equal to 3,000 gross tons ITC, the ballast water management requirements in 33 C.F.R. 151.2025 do not apply since the new regulation provides an exemption for these vessels.

Abbreviations

AMS	Alternate management system
BWE	Ballast water exchange standard
BWMS	Ballast water management system
BWP	Ballast water performance standard
BWTS	Ballast water treatment system
CFR	Code of Federal Regulations
COTP	Captain of the Port
EEZ	Exclusive economic zone
IMO	International Maritime Organization
MEPC	IMO Marine Environment Protection Committee

Further resources on the UK Club website

A resource page collating material in respect of international environmental compliance issues affecting our Members can be found at **www.ukpandi.com**. Information from the Club, its Loss Prevention activities and other external resources have been collated in one place for ease of reference and download.

Note: In this legal briefing, we are only highlighting parts of the Convention. The full text of the Convention and MEPC Guidelines may be purchased from IMO's website: www.imo.org

¹ [www.imo.org/KnowledgeCentre/PapersAndArticlesByIMOSTaff/Documents/Invasive species by DP.pdf](http://www.imo.org/KnowledgeCentre/PapersAndArticlesByIMOSTaff/Documents/Invasive%20species%20by%20DP.pdf)

² The Marine Environment Protection Committee (MEPC) of the International Maritime Organization (IMO) which met for its 65th session from 13 to 17 May 2013

³ With respect to a ship, the Administration is the flag State. With respect to floating platforms, FSUs and FPSOs, the Administration is the Government of the Coastal State. See Article 1(1).

⁴ The Marine Environment Protection Committee (MEPC) of the International Maritime Organization (IMO) which met for its 64th session from 1 to 5 October 2012.

⁵ The renewal survey referred to in the revised implementation schedule is a reference to the renewal survey required for the IOPP certificate required under MARPOL Annex 1, and not the renewal survey associated with the International Ballast Water Management Certificate.

⁶ www.ukpandi.com/knowledge/industry-developments/international-environmental-compliance/



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