International Chamber of Shipping

Shaping the Future of Shipping

Ballast Water Management Frequently Asked Questions (FAQs)

International Chamber of Shipping

Shaping the Future of Shipping

Ballast Water Management

Frequently Asked Questions (FAQs)

The International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention) entered into force on 8 September 2017. These FAQs are intended to raise awareness regarding key aspects of the BWM Convention (as well as relevant United States requirements) and assist in achieving compliance. Additional useful free compact guidance for shipowners has also been developed through the initiative of our member organisation Danish Shipping in form of The Little Blue Book on Ballast Water

#	**Question**	**Answer**
1	Does the BWM Convention apply to all ships?	The BWM Convention applies to all ships using ballast water in international trade except: 1. Ships which are not designed or constructed to carry ballast water; 2. Ships that only operate in the local waters of a single Party/Authority (coastal State), or in local waters of a single Party/Authority (coastal State) combined with voyages to and from international waters. Authorisation must be granted by the local Party/Authority, and the vessel's flag administration must be informed about authorisation; 3. Warships, naval auxiliary, or ships owned and operated by a State and used only on Government, non-commercial service, as stated in Article 3.2(d) of the Convention; and 4. Ships with sealed or permanent ballast water tanks.

2	What is the entry into force (EIF) date of the BWM Convention?	8 September 2017.
3	What are the basic requirements for ships from the EIF date?	From the EIF date, those ships to which the BWM Convention applies are required to: 1. Have on board and implement an approved BWM Plan (BWMP) that complies with Regulation B-1. The BWMP is required to be ship specific; 2. Record as per Regulation B-2 all ballast water operations in a BWM Record Book (BWRB) containing at least the information specified in appendix II of the BWM Convention; 3. Be subject to BWM surveys in accordance with Regulation E-1 and have on board a valid International Ballast Water Management Certificate (IBWMC) if the ship is equal to or above 400 GT; 4. Comply with the required ballast water management standard in accordance with the implementation schedule defined in Regulation B-3 and the amendments agreed by IMO MEPC 71 for adoption at MEPC 72.
4	What are the required ballast water management standards?	There are two ballast water management standards: 1. Regulation D-1 relating to Ballast Water Exchange (BWE); and 2. Regulation D-2 relating to Ballast Water Treatment (treatment) which will normally require the fitting of an approved Ballast Water Management System (BWMS).

<table>
<tr><td>5</td><td>What is the required ballast water management standard that my ship has to comply with?</td><td>From 8 September 2017, all ships must conduct BWE in accordance with Regulation D-1 and the approved BWMP until compliance with the Regulation D-2 (treatment) becomes mandatory. Shipowners may choose to comply with Regulation D-2 (treatment) early instead of complying Regulation D-1 (BWE).</td></tr>
<tr><td>6</td><td>From when does compliance with Regulation D-2 (treatment) become mandatory for my ship?</td><td>In accordance with the implementation schedule defined in Regulation B-3 of the BWM Convention, as per the amendments agreed by IMO MEPC 71 (to be circulated by the IMO on 8 September 2017 and adopted at MEPC 72) the following applies:

<table>
<tr><th>Ship category</th><th>Required BWM Standard</th></tr>
<tr><td>1. A ship constructed* on or after EIF on 8 September 2017</td><td>The ship must conduct Ballast Water Management that at least meets the standard described in Regulation D-2 (treatment) from the date of delivery of the ship.</td></tr>
</table>

<table>
<tr><th>Ship category</th><th>Required BWM Standard</th></tr>
<tr><td>2. A ship constructed* prior to 8 September 2017 <u>which has completed</u> an IOPP renewal survey on or after 8 September 2014 but prior to 8 September 2017</td><td>(i) The ship must conduct Ballast Water Management that at least meets the standard described in Regulation D-2 (treatment) from the date of the 1st IOPP renewal survey after 8 September 2017.

(ii) From 8 September 2017 until the date of the 1st IOPP renewal survey following EIF of the BWM Convention the ship must either conduct Ballast Water Exchange (BWE) and comply with Regulation D-1 or alternatively comply with Regulation D-2.</td></tr>
</table>
</td></tr>
</table>

Ship category	Required BWM Standard
3. A ship constructed* prior to 8 September 2017 <u>which has NOT completed</u> an IOPP renewal survey on or after 8 September 2014 but prior to 8 September 2017 and which has its 1st IOPP renewal survey following EIF due in the period 8 September 2017 to 7 September 2019.	(i) The ship must conduct Ballast Water Management that at least meets the standard described in Regulation D-2 (treatment) from the date of the 2nd IOPP renewal survey after 8 September 2017. (ii) From 8 September 2017 until the date of the 2nd IOPP renewal survey following EIF of the BWM Convention the ship must either conduct Ballast Water Exchange (BWE) and comply with Regulation D-1 or alternatively comply with Regulation D-2.

Ship category	Required BWM Standard
4. A ship constructed* prior to 8 September 2017 for which an IOPP renewal survey is not required.	(i) The ship must conduct Ballast Water Management that at least meets the standard described in Regulation D-2 from the date decided by the Administration, but not later than 8 September 2024. (ii) From 8 September 2017 until the 8 September 2024 the ship must either conduct Ballast Water Exchange (BWE) and comply with Regulation D-1 or alternatively comply with Regulation D-2.

Note: **Constructed***

In accordance with the BWM Convention "Constructed" in respect of a ship means a stage of construction where:

1. The keel is laid; or
2. Construction identifiable with the specific ship begins;
3. Assembly of the ship has commenced comprising at least 50 tonnes or 1 percent of the estimated mass of all structural material, whichever is less; or
4. The ship undergoes a major conversion.

7	Does having an approved BWMS installed on board prior to EIF date have any impact on the date when a ship is required to comply with Regulation D-2?	The fact that a ship has an approved BWMS installed prior to the EIF date has no impact on the date it is required to comply with Regulation D-2. The schedule for compliance with Regulation D-2 is as provided above in relation to FAQ 6.
8	My ship operates in an area where it will need to load and discharge ballast water and it is not possible to conduct BWE in accordance with Regulation B-4.1 due to the distance from land and/or water depth being less than 200 nautical miles and/or 200 metres respectively. What am I expected to do?	The IMO at MEPC 71 issued a BWM.2 Circular on this subject to guide Administrations. The circular states that: Until the date when a ship is required to meet Regulation D-2 in accordance with Regulation B-3, a ship operating in a sea area where ballast water exchange in accordance with Regulations B-4.1 and D-1 is not possible: 1. Should not be required to meet the D-2 standard; 2. Should not be required to proceed under Regulation B-3.6(discharge to a reception facility), B-3.7(other methods) or A-4 (exemption); 3. Should not be required to meet the D-2 standard, regardless of whether the ship does not comply with such methods, and 4. Should record the reasons why ballast water exchange was not conducted in accordance with Regulation B-4.5.

9	Does the BWMS I intend to install and use in order to comply with Regulation D-2 have to be approved and, if so, to what standard?	A BWMS installed** to meet the standard prescribed in Regulation D-2 must be approved in accordance with Regulation D-3. Ballast Water Management systems installed** on or after 28 October 2020 and used to comply with the BWM Convention must be approved in accordance with the IMO Code for Approval of Ballast Water Management Systems (BWMS Code). Adoption of the BWMS Code at MEPC 72 in April 2018 will revoke the 2016 Guidelines for Approval of Ballast Water Management Systems (2016 G8 Guidelines) adopted by resolution MEPC.279(70). The contents of the 2016 G8 Guidelines will become mandatory through the BWMS Code. Ballast Water Management systems installed** before 28 October 2020 are to have been approved in accordance with the BWMS Code or approved taking into account the 2016 G8 Guidelines adopted by resolution MEPC.279(70) or the Guidelines (G8) adopted by resolution MEPC.174(58). To ensure systems selected have been as robustly tested as possible shipowners installing systems before 28 October 2020 are recommended to give preference to those that have been: 1. Approved in accordance with the BWMS Code or approved taking into account the 2016 G8 Guidelines (these being the latest and most robust approval standards developed by IMO). If the ship in which the system is to be installed will operate in US waters then the system to be selected should also be type approved by the United States Coast Guard (USCG) see FAQ 10; or 2. Approved taking into account the G8 Guidelines adopted by resolution MEPC.174(58), provided the system is also type approved by the United States Coast Guard (USCG) see FAQ 10. *Note:* **Installed**** - In accordance with the BWM Convention “Installed” in respect of a ship means the contractual date of delivery of the Ballast Water Management system to the ship. In the absence of such a date, the word "installed" means the actual date of delivery of the Ballast Water Management system to the ship.

10	Is a BWMS approved in accordance with the BWMS Code or the BWMS Approval Guidelines (G8) acceptable for compliance with United States Ballast Water Regulations?	No, unless the BWMS also has separate USCG approval or is deemed acceptable as an Alternate Management System (AMS) for a limited period. Shipowners operating ships to the United States should be aware that the US is not a signatory to the BWM Convention and that ships discharging ballast water into US waters must comply with the requirements of 33 CFR Part 151 Subparts C and D (accessible at https://www.ecfr.gov/.). Ships operating in US waters are required to implement one of the following BWM means of compliance options: 1. Use a US Coast Guard-approved BWMS (Go to USCG Marine Safety Center and under **Ballast Water Management Type Approval** Information select "**Approved BWMS and Status of Applications**". See also Note 1 below; 2. Use an AMS installed prior to the Compliance Date (only valid for 5 years from Compliance Date) (Go to USCG Marine Safety Center scroll down and under **Other Ballast Water Management System Links** select **Alternate Management Systems (AMS)**). See also Note 2 below; 3. Use only water from a US public water system (PWS); 4. Do not discharge BW into waters of the United States (includes the territorial sea as extended to 12 nautical miles from the baseline); or 5. Discharge to a facility onshore or to another vessel for the purposes of treatment. *Note 1:* BWMS approved in accordance with the BWM Convention and the G8 Guidelines still require separate USCG approval to be considered acceptable for option 1. *Note 2:* BWMS approved in accordance with the BWM Convention and the G8 Guidelines still require acceptance as an AMS by the USCG for option 2.

<table>
<tr>
<td>11</td>
<td>What is the Compliance Date from which I have to install and use a USCG approved BWMS, or an AMS, if I intend to discharge ballast water into US waters?</td>
<td>The Compliance Date is that contained in table 151.2035(b), Subpart D of 33 CFR Part 151 (outlined below):
<table>
<tr><th></th><th>Vessel's ballast water capacity</th><th>Date constructed</th><th>Vessel's compliance date</th></tr>
<tr><td>New vessels</td><td>All</td><td>On or after December 1, 2013</td><td>On delivery.</td></tr>
<tr><td>Existing vessels</td><td>Less than 1500m^3</td><td>Before December 1, 2013</td><td>First scheduled drydocking after January 1, 2016.</td></tr>
<tr><td></td><td>1500-5000m^3</td><td>Before December 1, 2013</td><td>First scheduled drydocking after January 1, 2014.</td></tr>
<tr><td></td><td>Greater than 5000m^3</td><td>Before December 1, 2013</td><td>First scheduled drydocking after January 1, 2016.</td></tr>
</table>
</td>
</tr>
<tr>
<td>12</td>
<td>None of the current USCG approved BWMS are suitable for my ship, what can I do?</td>
<td>You may request an “Extension of the Compliance Date” in accordance with sub-section 151.2036 of Subpart D of 33 CFR Part 151 and which states:

“The Coast Guard may grant an extension to the implementation schedule listed in §151.2035(b) of this subpart only in those cases where the master, owner, operator, agent, or person in charge of a vessel subject to this subpart can document that, despite all efforts, compliance with the requirement under §151.2025 is not possible. Any extension request must be made no later than 12 months before the scheduled implementation date listed in §151.2035(b)”

i.e. the date provided in the table repeated in the answer to Q11 above.

A pdf document titled “USCG BWM Extensions – Highlights and Tips for Application (6 March 2017)” can be found on the USCG Homeport website, select USCG Marine Safety Center scroll down and under</td>
</tr>
</table>

		Other Ballast Water Management System Links select **Regulations and Policy Documents** followed by **Extended Compliance Dates – Application, Guidance, and Approved Vessels** then see Attachments displayed and select the pdf concerned.
13	Are there any key points to note when considering applying to the USCG for an extension to the Compliance Date?	Since the first approval of a BWMS by the USCG in December 2016, the USCG has subsequently revised its Extension Program (MSIB 03-17), issued on 6 March 2017. The key points to note are: 1. The length of extensions will be based on the availability of USCG type-approved system and detailed installation plans; 2. Extensions will no longer align with scheduled dry docking dates and will contain an “expiry date”. Extensions are no longer valid after the expiry date has passed; 3. Owners and operators should not anticipate that they will receive any further extensions to those granted after 6 March 2017. They should therefore plan their operations to ensure that the vessel will be in compliance with US BWM regulations after the expiry date; 4. Any application that has been submitted with less than 12 months’ notice prior to the vessel’s compliance date is in jeopardy of being denied; 5. Applications for vessels with compliance dates before and including 31 December 2018 will be evaluated based on the applicant’s justification as to why compliance is not possible and the applicant’s strategy, or plan, for how the vessel will comply with the regulations in the future including detailed timelines for installation; 6. Vessels which have applied for an extension and are expected to comply sometime between 2019 to 2021 will be processed 18 months prior to the vessel’s compliance date; 7. Applications for vessels expected to comply on or after 1 January 2021 will not be granted. Instead, vessel owners and operators should plan for compliance;

		8. Vessels with an installed AMS are already in compliance, and do not need extensions. Extension requests for these vessels will be denied; 9. If a vessel is not past its compliance date and installing an AMS is being considered as a compliance method, the vessel owner/operator should evaluate whether a USCG type approved BWMS is available for the vessel. If it is determined that such a system is not available, an AMS can be installed before the compliance date and used for up to 5 years after the vessel's compliance date; 10. Extensions, once granted, are valid until the date specified in the letter of extension from the USCG, and may be transferred to a new owner/operator for the remainder of its term.
14	When PSC inspects a ship which is using an approved BWMS to comply with Regulation D-2 of the BWM Convention, does sampling and analysis of the ballast water being discharged form part of the inspection?	As Article 9 of the BWM Convention is currently written, sampling of the ship's ballast water is permitted as part of the initial inspection even without PSC having clear grounds for concern related to the condition of the ship and equipment, certification or familiarity of the crew with the BWMP and procedures. The time required for analysing samples must however not be used as a basis for unduly delaying the operation, movement or departure of the ship. However, notwithstanding the above, IMO MEPC 67 adopted resolution MEPC.252(67) on **the *Guidelines for port State control under the BWM Convention*** and invited Governments to apply the Guidelines when exercising port State control inspections. Importantly the adopted PSC Guidelines differ to Article 9 and instead promote a four-stage inspection approach which does NOT envisage sampling and indicative analysis until stage 3 when grounds for a "more detailed inspection" have been established. The grounds for a "more detailed inspection" should be based on observation of the conditions detailed in Article 9.2 of the BWM Convention. Therefore, in line with the PSC Guidelines, if the ship and its equipment are in good condition, the certification is in order and the Master and crew are familiar with and have implemented essential shipboard BWM procedures, then sampling and analysis of ballast water discharges should not occur.

15	What should be the key considerations when selecting and installing a BWMS?	When selecting and installing a BWMS, the following key items should be considered: 1. If intending to operate the ship internationally, including in US waters, does the BWMS have approval from the USCG in addition to the Administration which has approved the system in accordance with the BWM Convention? 2. Is the BWMS approved in accordance with the most robust approval standards? With respect to approval in accordance with the BWM Convention the latest and most robust standards for approval are the 2016 G8 Guidelines. This standard will become mandatory and will be renamed as the Code for Approval of Ballast Water Management Systems. The start of the implementation schedule for installing BWMSs on existing ships has been delayed by IMO for 2 years until 8 September 2019, to allow for systems approved in accordance with the more robust standards to become available to owners. Shipowners should therefore plan accordingly and advise manufacturers that they require a BWMS approved in accordance with either the 2016 G8 Guidelines or the Code for Approval of BWMS, together with USCG approval. 3. Create a questionnaire based on points 1 and 2 above and forward to potential suppliers requesting details of: a. Current BWMS approvals; and b. Intended and expected BWMS approvals in accordance with the 2016 G8 Guidelines or the Code for Approval of BWMS, together with USCG approval. If the manufacturer intends to gain USCG approval they should be in a position to provide a copy of the USCG Letter of Intent and a copy of the contract between the company and the Independent Laboratory (IL) approved by the USCG, as well as provide the current status and results of their testing to date. It should be noted that any legitimate supplier will have both of these documents readily available and should be happy to provide them. While any supplier can receive the USCG

		Letter of Intent by simply asking for one, the contract with an approved IL is one more level of commitment to the process by the supplier. However, it does not eliminate all risk. 4. Determine if the BWMS being considered has 'Limiting Operating Conditions' (LOC) related to salinity and water temperatures restricting the ballast water they can effectively treat, and select your BWMS taking into consideration the ship's intended area of operations and water parameters. 5. If intending to fit on a ship operating globally, check that the system as a minimum has been tested and approved for effective performance in treating all three ballast water salinities in the following salinity ranges: **fresh** (< 1 PSU), **brackish** (10 – 20 PSU) and **marine** (28 – 36 PSU); and that the system is also effective in treating ballast water with temperatures across the full range of 0°C to 40°C (2°C to 40°C for fresh water). 6. Establish if the BWMS manufacturer has identified any 'System Design Limitations' (SDL) including water quality (e.g. UV transmittance, levels of suspended solids etc.) and/or operational parameters. These SDLs should be determined in addition to the required type approval testing parameters that are important to the system's operation. For each such parameter the manufacturer should provide the respective high/low value range for which the BWMS is proven to achieve the performance standard of Regulation D-2. Ensure that the SDL ranges are suitable for the ship's envisaged areas of operations. 7. *Note:* In the context of points 4, 5 and 6 (above), any BWMS approved in accordance with either the 2016 G8 Guidelines or the BWMS Code should have annotated on the front of the Type Approval Certificate whether the system has any LOC relating to ballast water salinity or temperature, and details of any SDL affecting the efficacy of the system. USCG Type Approval certificates should contain details of any operational limitations imposed. If the BWMS has been approved in accordance with the earlier version of the G8 Guidelines, adopted by resolution MEPC.174(58), then the LOC and SDL information may not be detailed on the Type Approval Certificate and the shipowner should request equivalent information from the manufacturer regarding the limitations of the system to treat ballast water to the D-2 standard.

		8. For systems approved in accordance with the earlier version of the G8 Guidelines adopted by resolution MEPC.174(58), it should be noted that there was no requirement for independence between the BWMS testing establishment and the manufacturer. As a result, for these systems, shipowners should (1) ask the manufacturer: where the original biological testing for IMO approval was conducted, and (2) request a copy of the testing details and results. It should also be noted that the USCG has found that 50% of IMO approved BWMS were not subject to independent testing. Suppliers who had their systems tested at independent certified laboratories should be in a position to provide this information to you. Ensure that it contains the before and after results for all controlled species and bacteria types. 9. Discuss possible contingency measures with the manufacturer if LOC and SDL parameters are exceeded due to area of operation and waters needing to be treated, for example due to sediment loads being excessive or UV transmittance being low. 10. Determine the necessary treatment capacity for the ballast water system of the ship. Consider the number of ballast pumps and consider redundancy of BWMS components in case of malfunction to permit continued de-ballasting operations. 11. As there have been concerns raised about scaling up systems from the capacity used for type approval, it is recommended that you ask: (1) What capacities of the system concerned has the manufacturer installed and commissioned to date, and (2) have they actually installed and commissioned systems with the same or a larger capacity than the one being proposed for your ship, and has the biological efficacy been verified? 12. As systems are not required to kill all organisms but reduce them to acceptable numbers, consider re-growth of organisms in tanks if the system treats the ballast on uptake. Consider the periods between uptake, treatment and discharge of ballast and whether there can be re-growth. If the system does not prevent re-growth then it is recommended that a system which treats on uptake and discharge is used, to ensure the discharged ballast complies with the D-2 standard. 13. If the ship has ballast top side tanks discharged by gravity, consider how the ballast is to be

		adequately treated so that it will comply with the D-2 standard on discharge, taking into consideration the possibility of re-growth. It should be noted that chemical systems which may address the problem of re-growth in the uptake or in-tank treatment usually require neutralisation of the residual oxidants during the discharge process. 14. Consider hazards and mitigation associated with the BWMS, including exposure to chemicals, gasses evolved including Hydrogen and Ozone. 15. Consider the reliability of the supplier of the BWMS and the financial strength of their operations, service network and ability to provide, both in the short and long term, technical support globally. Consider contractual agreements including what support can and will be provided in the event that a system fails to meet the discharge standard. 16. Consider the operational simplicity of the system, crew training requirements and contingency measures that can be adopted in case any part of the system fails or the discharge fails to meet the discharge standard, despite the BWMS being operated and maintained correctly. 17. Consider the service network and logistics for the supply of “active substances”. 18. The BWMS and associated piping should have a suitably installed sampling point in accordance with resolution MEPC.173(58) *Guidelines for Ballast Water Sampling*. Ensure that the sampling arrangements are easily accessible to facilitate sampling and maintenance. 19. Verifying biological efficacy of the system following installation and at the end of commissioning is not a statutory requirement. Shipowners are therefore encouraged to include this as a requirement in the contract with the manufacturer/shipyard. Consequently, before the BWMS is accepted by the shipowner, ballast water operations should be conducted using local waters and biological efficacy demonstrated. The ballast should be treated and discharged as per the BWMP and in accordance with the correct operating procedures for the BWMS. Representative samples of the ballast being discharged should be taken from the approved sampling point, in accordance with correct

		sampling procedures. The samples should be subject to indicative and detailed analysis for compliance with the D-2 standard. If the samples fail to meet the D-2 standard, the reason should be ascertained, corrective action taken and the process detailed above repeated until the BWMS is proven reliable in terms of biological efficacy. 20. Other points to consider for discussion with manufacturers include: • Backpressure issues for ballast pumps with large discharge capacities; • Compatibility between BWMS automation system and the ship's automation system; • Start-stop procedures including contingencies for disinfection component failures and alarm management; • Capital costs, operational costs; • Product liability if the system fails to meet the D-2 standard, despite being operated and maintained correctly; • Space needed and the flexibility of installation • Whether to request a turnkey arrangement; • Scope of supply (including laser measurements); • Crew training requirements; • Implications for tank coatings; and • Supply of onboard test kit for PSC compliance testing or crew check testing.
16	Will a BWMS approved in accordance with the 2016 G8 Guidelines need to be reapproved in accordance with the Code for Approval of Ballast Water Management Systems (BWMS Code)?	No, IMO MEPC 71 decided that a BWMS approved taking into account the 2016 G8 Guidelines, shall be deemed to be in accordance with the BWMS Code.