

Title: Merchant Shipping (Ambulatory Reference) (Revocation of Provisions Relating to MARPOL Annex IV Provisions Within the Prevention of Pollution by Sewage Regulations) Date: 14/08/2018 DMA No: DFTDMA062 Lead department or agency: Maritime and Coastguard Agency Other departments or agencies: Department for Transport		De Minimis Assessment (DMA)	
		Stage: Consultation	
		Source of intervention: International	
		Type of measure: Secondary	
Summary: Rationale and Options		Contact for enquiries: Steven Dexter, steve.dexter@mcga.gov.uk	
Total Net Present Value -£0.91m	Business Net Present Value -£0.91m	Net cost to business per year <small>(EANDCB in 2016 prices)</small> £0.1m	

Rationale for intervention and intended outcomes

Nutrients, especially Nitrogen (N) and Phosphorous (P), from sewage discharged into the sea from passenger ships contribute to the problem of eutrophication, where excessive growth of algae, plankton and other microorganisms can have serious negative effects on other organisms like fish, birds and even people. Due to the semi-enclosed nature of the Baltic Sea it is very susceptible to eutrophication. The International Maritime Organisation has designated the Baltic Sea as a special area with stricter sewage discharge requirements for passenger ships under the MARPOL Convention Annex IV. As a signatory to the convention, the UK is required to transpose these requirements into law, but the UK's transposing legislation does not yet reflect these latest requirements. Without regulation, environmental outcomes in the maritime sector would be suboptimal because industry do not incur the full social cost of their environmental impacts. Intervention is required to introduce revisions into UK law and to ensure that future revisions are implemented without unnecessary delay.

Describe the policy options considered

Do nothing is not a realistic option as the UK is signatory to MARPOL Annex IV and has an obligation to implement any changes to MARPOL Annex IV into UK law.

Option 1: Bring UK law in line with recent updates to MARPOL Annex IV requirements. However, this would fail to recognise industry's concerns raised during the Red Tape Challenge about the delays in transposition of international requirements.

Option 2: Bring UK law in line with the updates to MARPOL Annex IV requirements and introduce ambulatory referencing to refer UK industry to the most up to date international legislation in this area. This has the support of the UK shipping industry and is therefore the preferred option.

Rationale for DMA rating

Most of the revisions have no economic impact on UK businesses. The revisions that do make an impact relate to new standards on sewage discharge in the Baltic Sea Special Area. There were two UK cruise ships operating in the Baltic Sea Area in 2017/18 that would have been affected by these changes. To meet the new requirements, these ships have the option of upgrading their on-board sewage treatment plants (STPs), allowing them to discharge treated sewage into the sea, or to discharge to Port Reception Facilities (PRFs).

Upgrading the STPs would cost around £430k per ship, so an £860k total one-off cost. This represents the low-cost scenario. Alternatively, if the two ships used PRFs at each Baltic Sea port call they made in 2017/18 it is estimated that it would have cost £112k per year, equivalent to £960k present value over 10 years. This represents the high cost scenario. There is anticipated to be minimal familiarisation costs in both scenarios, estimated at under £100 for the affected ships. A mid-point of the high and low-cost scenarios represents our best estimate, at a present value of £910k over 10 years and £101k equivalent annual direct cost to business.

There are benefits relating to the marine environment in the Baltic Sea and reducing delays in implementing revisions to MARPOL Annex IV in the future. None of these benefits affect UK businesses or have been monetised.

Ambulatory referencing is not controversial. It has explicit support from industry, who contribute to policy development at the IMO, and three separate ambulatory referencing impact assessments have been cleared by the RPC.

Will the policy be reviewed? Yes		If applicable, set review date: See supporting evidence		
Are these organisations in scope?	Micro No	Small No	Medium No	Large Yes

Senior Policy Sign-off:	✓	Gwilym Stone	Date:	17/08/2018
Peer Review Sign-off:	✓	Josh Nava	Date:	15/10/2018
Better Regulation Unit Sign-off:	✓	Adam Matthews	Date:	16/10/2018

Supporting evidence

1 Background

Shipping is an international industry and the regulatory framework must reflect this. The International Maritime Organization (IMO)¹ is the United Nations' specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. Its main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and implemented.

The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1978 and 1997 Protocols (MARPOL)² is one in a number of Conventions adopted by the IMO to fulfil its remit. The MARPOL Convention was first adopted in 1973 and updated in 1978 in response to a spate of tanker accidents in 1976-1977. The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations. Flag states are responsible for ensuring that ships under their flag comply with its requirements, and certificates are issued as proof of compliance. Their ships are inspected against these requirements in foreign ports.

MARPOL is divided into 6 annexes, each addressing different subjects. MARPOL amendments are developed by a number of technical sub-committees who report to the IMO's Marine Environment Protection Committee (MEPC), which is responsible for overseeing the developments and ultimately approve and adopt amendments.

MARPOL Annex IV (which focuses on sewage) entered into force in September 2003. It prohibits the discharge of sewage into the sea from ships engaged in international voyages, which are 400 gross tonnage and above and, ships less than 400 gross tonnage that are certified to carry more than 15 persons. The regulations then allow for the discharge of sewage into the sea, with conditions, from those ships, by specifying requirements for the ships' equipment and control of discharge, together with the survey and certification and provision for adequate port reception facilities for sewage.

2 Problem under consideration

The Helsinki Commission's (HELCOM) Baltic Sea Action Plan (BSAP) has made it a high priority for Baltic Sea States to reduce the effects of nutrient loading in the Baltic Sea. Due to the semi-enclosed nature of water, which can result in restricted water exchange with the ocean, the Baltic Sea is very susceptible to nutrient loading resulting in an environmental problem of eutrophication. Eutrophication occurs when too many nutrients, especially Nitrogen (N) and Phosphorous (P), are present. The main contributor to the Eutrophication problem is land based runoff, however, sewage from passenger ships, due to the number of persons on board, is also a contributing factor. Algae, plankton and other microorganisms thrive on these nutrients, and when they are plentiful, these aquatic organisms can take over. When parts of the ocean become eutrophic, it can have serious negative effects on other organisms like fish, birds and even people. In respect of nutrient loading input from the global shipping industry, at the IMO's Marine Environmental Protection Committee (MEPC) (MEPC 60 & 61), the Baltic Sea States put forward papers: 1) To establish Special Areas under MARPOL Annex IV; 2) Designate the Baltic Sea as a special area under MARPOL Annex IV; and, 3) To establish stricter sewage discharge requirements for passenger ships operating within the Baltic Sea area³.

¹ Further information on the IMO is available from: <http://www.imo.org/en/About/Pages/Default.aspx>

² Further information on the MARPOL Convention is available from: <http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-%28MARPOL%29.aspx>

³ MEPC 200(62)

At present the UK's transposing legislation does not reflect the latest requirements of MARPOL Annex IV, there are still a number of amendments contained in 11 IMO MEPC resolutions dating back as far as 2011 that are yet to be implemented. Table 1 below shows the amendments made by the IMO since 2011 and the dates for each amendment:

Table 1: Resolutions relation to MARPOL IV yet to be transposed to UK Law

Amendment	Adopted	In Force
MEPC 200(62) - New definitions; New Par in Reg. 9 Sewage Systems; Revised text for Reg.11 Standard Discharge Connections; New Reg.13 Reception Facilities for Passenger Ships in Special Areas; Revised text for ISPP Certificate	15/7/2011	1/01/2013
MEPC 2016(63) - New par in Reg.12 Reception facilities – regarding arrangements for Small Island Development States	2/03/2012	1/08/2013
MEPC 218(63) - Refers to Reg.11.3 regarding the development of technical on-board equipment in relation to the designation of the Baltic Sea as a special area	2/03/2012	1/01/2013
MEPC 221(63) - Refers to Reg.12 regarding 2012 Guidelines for the development of a regional reception facilities plan	2/03/2012	
MEPC 227(64) - Refers to Reg.9 regarding 2012 Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants adopted by the Marine Environment Protection Committee of the Organization	5/10/2012	Implemented 1/01/2016
MEPC 246(66) - New definitions; New Chapter 6 – Verification of compliance with the provisions of this Annex; New Reg.15 Application and Reg.16 Verification of compliance	4/04/2014	1/01/2016
MEPC 264(68) – The Polar Code	15/05/2015	1/01/2017
MEPC 265(68) - Revised text to Reg.3 Exceptions which now includes chapter 4 of Part II-A of the Polar Code; Reg.17 Definitions; Reg.18 Application and Requirements – Polar Code	15/05/2015	1/01/2017
MEPC 274(69) - Revised text in Reg.1.9; Revised text in Reg.11.3; Revised text in ISPP Cert 1.1.1	22/04/2016	1/09/2017* <i>1/6/19 and 1/6/21</i>
MEPC 275(69) - The discharge requirements for Special Areas in Reg.11.3 of MARPOL IV for the Baltic Sea Special Area shall take effect specified dates. Introduces a new applicable date range for discharge requirements in Special Areas: 1. 1/6/2019 for new passenger ships 2. 1/6/2021 for existing passenger ships or 3. 1/6/2023 for existing passenger ships en route directly to or from a port located outside the special area and to or from a port located east of longitude 28°10' E within the special area that do not make any other port calls within the special area.	22/04/2016	Decision by 30/09/2016
MEPC 284(70) - Makes reference to Reg.9 in regard to amendments to 2012 Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants adopted by the Marine Environment Protection Committee of the Organization	28/10/2016	Decision by 1/09/2017

**MEPC 274(69) imposes the amendment with regards to the prohibition of discharge of sewage from a passenger ship within a special area. The amendment being a change of dates for prohibition for new passenger ships is now 1/06/2019 and for existing passenger ships, 1/06/2021 (see paragraph 4.6.3)*

Rationale for Intervention

The shipping industry does not face the full costs in terms of the externalities of pollution by sewage from ships. This is because the full impact of pollution isn't paid by the owner/operator of the ship that pollutes. Third parties bear some of the costs, known as 'external costs', for example, the damage caused to the marine environment. These 'external costs' can arise in the course of normal activity in the maritime transport sector, as a result of accidents, or due to illegal activity. Without regulation, incentives for the shipping industry to ensure the best possible environmental precautions are suboptimal since they do not incur the full social costs associated with such incidents.

The shipping industry has been progressively regulated to reduce the risk of pollution by sewage from ships occurring. The number and severity of sewage pollution accidents are minimal to zero and the number of discharge incidents are minimal depending on the type of ship and its flag state. Pollution incidents do, of course, occur, but are now infrequent and are often on a minor scale. When incidents do take place the procedures and processes are in place to ensure the reaction is swift and any impacts minimised.

Regulatory approach

Current practice on implementation is to use a mixture of primary and secondary legislation with technical provisions included either in the instrument, relegated to separate government publications, or occasionally incorporated by direct reference to the international text. The choice between these options has been dictated by the available powers or by what seemed most expedient at the time. Consequently, there is an absence of any coherent regulatory framework to guide users (such as a framework mirroring the international agreements), and this, combined with a mix of international and domestic obligations in the same instrument results in a position that is confusing to both industry and regulators alike.

Using current procedures and practice to implement regular changes to international agreements is time consuming and resource intensive. There is a need for Government intervention to provide for an alternative, simplified, approach to help speed up implementation and / or reduce the resources required.

Failure to implement UK obligations under these international agreements could result in ships being challenged during port state control checks in foreign ports, leading to delays and inconvenience for UK flagged ships trading internationally. The gap between the international agreements and UK domestic implementation also has implications for enforcement because regardless of the merits of a particular international agreement, if it has not been incorporated in domestic law there is no legal authority to require compliance. Also, the number of redundant domestic legislative provisions will inevitably increase further, confusing the regulatory picture.

3 Policy objectives

Reduce the effects of nutrient loading in the Baltic Sea

Sewage from passenger ships plays a role in nutrient loading in the Baltic Sea. This nutrient loading leads to eutrophication, which can have serious negative effects on the marine environment, as set out in the "Problem Under Consideration" Section.

Transposition of outstanding amendments to MARPOL Annex IV into UK law

Since 2011 the IMO has made amendments to MARPOL Annex IV, as outlined in Table 1. As a signatory to the MARPOL Convention, the UK has an obligation to implement any changes to MARPOL Annex IV in UK law. At present the UK's transposing legislation does not reflect the latest requirements of MARPOL Annex IV.

Introduce Ambulatory Referencing and reduce legal uncertainty

It is intended that the new UK Regulations incorporate a requirement for ships to comply directly with MARPOL Annex IV in its up to date form. This will ensure that in the future, from a legal perspective, the UK is always up to date with the transposition of MARPOL Annex IV requirements.

Supporting documentation will be used to add legal prescription or additional guidance, as required. For example, where the Convention states that a requirement is “to the satisfaction of the administration”, the Maritime and Coastguard Agency will specify what is required to meet this obligation.

During the Red Tape Challenge industry raised its concern regarding the lengthy delay between amendments to international Conventions coming into force globally and the same amendments being transposed into UK law. These delays lead to legal uncertainty and disparity between national and international legislation, which has already been adopted by other maritime administrations.

Specifically the UK Chamber of Shipping’s⁴ response to the Red Tape Challenge was:

“The UK shipping industry was very pleased to contribute to the Government’s recent Red Tape Challenge initiative and proposed a number of basic principles which might help ensure ‘better regulation’ into the future.

One of these involved the direct read-across through ‘ambulatory references’ of international conventions which have been accepted by Government into UK law without their provisions having to be rewritten in the national context.

This would in particular help with keeping the national law up to date when amendments were agreed, of course again subject to their acceptance by Government.

The international convention text would clearly remain subject to the same scrutiny as at present and could be supplemented by guidance in the UK as to interpretation as necessary.

We believe that such a practice in the UK would substantially reduce the regulatory and legal process surrounding the adoption in this country of international regulations, which are an essential part of international shipping and without which the UK merchant fleet would not be able to operate.”

In response, DfT sought regulatory reform through the Deregulatory Act 2015. The Act introduced an additional power which allows for ambulatory referencing to be made to international instruments. Ambulatory Reference means a reference in legislation to an international instrument as modified from time to time (and not simply to the version of the instrument that exists at the time the secondary legislation is made). Further information on Ambulatory Reference can be found in Annex 1.

It is worthwhile noting that whilst the UK Chamber of Shipping advocates ‘ambulatory references’, this does not negate the Government’s principle of consultation. Amendments to international Conventions are developed and agreed at the IMO, where in addition to Member States, industry is well represented. Industry is therefore heavily involved with policy development and also in helping to shape the UK’s negotiating position. Working in partnership, UK officials and industry actively contribute to negotiations on new initiatives to ensure there are appropriate and proportionate measures to improve safety.

Level Playing Field

UK ships are liable for detention in a non-UK port if they are not in compliance with the latest requirements of MARPOL Annex IV. Although this is considered unlikely as most UK owners and operators comply as a matter of course with the up to date requirements of MARPOL Annex IV (regardless of whether the UK has transposed them into UK legislation) to continue operating worldwide to mitigate the risk of detention. Whilst the cost of rectifying a detention to enable the ship to sail may be low, the commercial cost of the time lost to the operator can be extremely high, given that

⁴ The UK Chamber of Shipping is a trade association and considered to be voice for the UK shipping industry. It has around 150 members from across the maritime sector. Further information on the Chamber is available from: <https://www.ukchamberofshipping.com/about-us/>

ship operators need to cover the cost of chartering their ship. A lost day of operation can be a very significant cost – for example, the cost of chartering a dry bulk carrier is currently between around US\$10k – US\$20k.⁵

Without transposition of the latest MARPOL Annex IV requirements into UK law, the UK is unable to take enforcement action against non-compliant ships. Examples of enforcement actions include the detention of a non-compliant ship at Port State Control inspections, and prosecution of the ship's owners/operators should the cause of an accident be due to non-compliance with the latest MARPOL Annex IV amendments.

4 Description of options and issues considered

Option 0: Do nothing

The UK, as a signatory to the MARPOL Convention, has an obligation to implement any changes to MARPOL Annex IV in UK law. Without timely implementation:

- there is a lack of legal certainty for operators due to differing international and domestic requirements;
- the playing field is not level for UK operators; and
- the UK's reputation is at risk

'Do nothing' is the baseline against which Options 1 and 2 are assessed. The do nothing considers a state of the world where the revisions considered in this impact assessment were not adopted by the IMO into the MARPOL convention. However, ships would arguably need to be compliant with the regulations regardless of whether UK legislation is changed, because they would be required to comply with all the latest international standards when they call in a foreign port.

Option 1: Update UK legislation in line with current version of MARPOL Annex IV

This option would address the UK's current breach of its obligation to give effect to all of the outstanding requirements in MARPOL Annex IV, as shown in Table 1.

The changes that will affect UK business are:

1. **Provision of a Special Area:** Introducing the concept of Special Area under MARPOL Annex IV. These special areas are provided with a higher level of protection than other areas of the sea.
2. **Baltic Sea as a Special Area:** Designating the Baltic Sea as the first Special Area under MARPOL Annex IV
3. **Discharge of Sewage into the Baltic Sea (Effluent standards and performance tests for sewage treatment plants):** More stringent standards on passenger ships meeting the MARPOL Annex IV criteria operating within a special area intending to discharge treated effluent discharge into the sea have been introduced. These will be applied by the dates provided in amendment MEPC 275(69)⁶. The majority, if not all UK passenger ships have a type approved Sewage Treatment Plant (STP) to allow discharge into the sea but because of these more stringent requirements for the Baltic Sea special area (i.e. the requirement to remove Nitrogen (N) and Phosphorous (P)), passenger ships operating in the Baltic need to have a specifically approved STP for the Baltic Sea if they wish to continue to discharge. The 2 current UK passenger ships operating in this area do not have the specifically approved STP for the Baltic Sea and therefore they are holding the sewage to discharge to a Port Reception Facility (PRF) In practice the choice for UK passenger ships will be to either retrofit/upgrade a STP on board that is specifically approved for the Baltic Sea special area or hold their sewage in a holding tank and discharge to a PRF.

⁵ <https://www.ssvonline.com/free-charts/bulk-carrier-time-charter-rates/#>

⁶ 1. 1 June 2019 for new passenger ships; 2. 1 June 2021 for existing passenger ships other than those specified in point 3 as follows; 3. 1 June 2023 for existing passenger ships en route directly to or from a port located outside the special area and to or from a port located east of longitude 28°10' E within the special area that do not make any other port calls within the special area

Other changes, which are not anticipated to have any effect on UK business are:

1. **Reception facilities in special areas:** Requiring that ports and terminals in the Baltic Sea area must provide adequate facilities for the reception of sewage being discharged from passenger ships. There are no UK ports in the Baltic Sea area so there are no impacts on UK businesses.
2. **Reception Facilities for Small Island Development States:** Allowing Small Island Developing States (SIDS) to satisfy the relevant requirements of reception facilities through regional arrangements. The UK is not a SIDS so there are no impacts on UK businesses.
3. **IMO Instruments Implementation Code (III Code):** Introducing a mandatory audit scheme under the MARPOL convention to assess Member States' performance and responsibilities as flag, port and coastal States under the relevant IMO treaties and then offering the necessary assistance, where required, for them to meet their obligations fully and effectively. This has no impact on businesses.
4. **The Polar Code:** Providing a more comprehensive set of provisions to address the increased interests and traffic in the Polar Regions. This is not anticipated to have an impact on UK business.

Option 1 would fail to recognise industry's concerns raised during the Red Tape Challenge about the delays in transposition of international requirements.

Option 2: Bring UK law in line with current version of MARPOL Annex IV and introduce ambulatory referencing to refer UK industry to the latest international legislation in this area.

In addition to the measures outlined under Option 1, this option would introduce ambulatory referencing to MARPOL Annex IV which will directly fulfil the main request of industry from the Red Tape Challenge, which was to address the delay in transposition of international requirements. This option also:

- provides the legal certainty sought by industry as domestic legislation will no-longer be out of step with international requirements;
- reduces the administrative burden for industry, as it can focus on the convention text in technical areas rather than also having to refer to national implementing legislation;
- meets the industry desire for copy-out text, and reduce debates on whether a provision has been "gold-plated"; and
- provides a level playing field between UK ships calling at foreign ports and foreign flagged ships calling at UK ports.

This option has the support of the UK shipping industry and is therefore the preferred option.

Note on Ambulatory Reference for MARPOL IV

Under ambulatory referencing, future amendments to MARPOL Annex IV agreed internationally will automatically come into force in the UK.

There have been 3 amending Resolutions in since Annex IV entered into force in 2003 prior to the Resolutions yet to be transposed. These mostly provide further clarity, make technical changes, or redefine geographical operational areas.

There is currently 1 new output planned in the IMO work programme (review the 2012 Guidelines on the implementation of effluent standards and performance tests for sewage treatment plants) in order to reduce the inconsistency in application. It is anticipated that work will commence on this in 2019. It is fully expected that any further changes which do occur will be minor, as those over the last 3 years have been. Historically MARPOL Annex IV has been largely stable with infrequent changes.

Any future amendments will go through scrutiny by government and industry as they progress through the IMO process. In addition, any amendments introduced will be reviewed at five-yearly intervals through the Post Implementation Review (PIR) process.

The PIR will evaluate whether the policy has achieved its goal and is still valid and evaluate the costs and benefits of all the technical amendments enacted since the previous review (or Impact Assessment). If any amendment is found to be undesirable, the Secretary of State will have the power to prevent it coming into force in the UK or revoke it if already in force. This is unlikely, because the amendments will have been agreed with UK government and industry, as well as internationally, before coming into force.

5 Costs and benefits of each policy option

Introduction

This section assesses the additional costs and benefits of the replacement Regulations compared to the 'Do Nothing' scenario over a ten-year period; the 'Do Nothing' scenario represents what would happen if the regulations in Annex IV were not brought into force.

A number of the monetised costs in this IA were provided by Baltic Sea ports web site tariffs and figures quoted by a detailed study provided by "Transport Safety Agency" of Finland⁷.

Note: Unless otherwise stated, the numbers of ships quoted from this point onwards are based on SeaWeb as at August 2017.

Number of Ships in Scope

There are currently 6 UK flagged passenger ships of the type that could be affected by this regulation. Only two of those ships were operating in the Baltic Sea Area during 2017 and 2018 (Britannia and Sapphire Princess). Only these two ships would be directly affected by these regulations in practice.

These ships have type approved STPs for outside the special area but would be required to upgrade their STPs to meet the N & P reduction standards for them to be able to discharge into the Baltic Sea Special Area.

Option 1

In Option 1, the two ships affected would either be required to upgrade their STPs or to discharge treated effluent in ports to PRFs.

⁷ Transport Agency of Finland, Evaluating the costs arising from new maritime environmental regulations
https://www.trafi.fi/filebank/a/1392997036/640155e8ece18c8cca5abcc18d8c9c31/14262-Trafi_Publications_24-2013_-_Evaluating_the_costs_arising_from_new_maritime_environmental_regulations.pdf

COSTS

Replacement Sewage Treatment Plant

Due to commercial confidentiality, we were unable to source exact costs, hence the use of estimations from the Transport Safety Agency of Finland. They have estimated that installing an STP that complies with the standards set for the Baltic Sea Special Area would cost £430,000 per ship. If the two ships affected opted to install these STPs, the one-off cost to business in year one would therefore be £860,000, equal to two STPs at £430,000 per STP. This represents the low cost scenario, at a present value of £860k. It is assumed that it is not possible to upgrade a STP that does not comply with the Baltic Sea Special Area standards to one that does comply with them.

Discharge sewage to Port Reception Facilities in Baltic Sea Ports

If ships do not wish to upgrade to a specifically approved STP, the alternative way to meet the standards in the Baltic Sea is for the ships to store their sewage and then discharge it out to PRFs when they make a call to port.

PRF fees are dependent upon many variables and hence it is not possible to identify exact costs per ship per port for most ports within the Baltic Sea area.

We can provide accurate cost estimates for 2 ports, which are Gdynia in Poland and St Petersburg in Russia. The fees, and how they would be applied to the MV Britannia and the MV Sapphire Princess in 2018 are shown in Table 2 below. The fee is charged in M³ of sewage discharged to PRF.

Based on the European Maritime Safety Agency ISO standards for PRFs⁸, the average person on board a ship produces 0.06M³ of sewage per day, and we estimate that it takes around one day to travel between each port, so the amount of sewage to discharge to a PRF is assumed to be the crew and passenger capacity of the ship multiplied by 0.06M³. The passenger and crew capacity of the MV Britannia is 5,722, and for the MV Sapphire Princess it is 3,770, giving a sewage volume of 343.3 M³ and 226.2M³ respectively.

As detailed in Table 2, the total annual cost to the two affected ships if they both opted to use PRFs in the port of Gdynia (Poland) and St Petersburg (Russia) would be £27,579.

There are a further 6 ports in the Baltic sea in which the MV Britannia and the MV Sapphire Princess intend to visit in 2018 at a total of 21 visits. These ports' additional PRF fees for cruise ships are less transparent, but range from £0 (known to be included in the standard port fee) to approximately £8,000. Our best estimate is a mid-point estimate of £4,000 per port call.

Taken together, the total shown in Table 2 represents the high-cost scenario of £111,579 per year and a present value over 10 years of £960,437, using a 3.5% discount rate.

Table 2: PRF fees for handling sewage

Port	Notes	Fee / M ³ (EUR)	Converted to GBP @ 1.12 GBP/EUR	Estimated Fee per visit (GBP)		Visits in 2018		Cost in 2018 (GBP)		TOTAL (GBP, annual)
				Britannia (343.3 M ³)	Sapphire Princess (226.2 M ³)	Britannia	Sapphire Princess	Britannia	Sapphire Princess	
Gdynia	1/3 delivered free	15.00	13.39	3,065	2,019.64	0	2	0	4,039	4,039
St Petersburg	\$30/M3	25.80	23.04	7,908	5,210.68	1	3	7,908	15,632	23,540
Other ports	Best estimate is £4,000 per call			4,000	4,000	5	16	20,000	64,000	84,000
						TOTAL		27,908	83,671	111,579

* Exchange rate taken from Bank of England on 2 August 2018

⁸ European Maritime Safety Agency, Technical Recommendations on the Implementation of Directive 2000/59/EC on Port Reception Facilities <http://www.emsa.europa.eu/emsa-documents/download/4479/2875/23.html>

Familiarisation Costs

Familiarisation costs would be incurred equally in both the high and low costs scenarios. They relate to the obligation of an officer of each ship to familiarise themselves with the latest provision of the regulations. Based on the fact MARPOL Annex IV latest text is 9 pages (plus appendices), we have estimated internally that it would take one person between 30 to 90 minutes to read through nine pages of text as a one-off exercise.

Gross Earnings data has been sourced from 2017 Annual Survey of Hours and Earnings (ASHE) data for Sea and coastal passenger water transport, at a median rate of £17.65 per hour. The familiarisation time is applied to the two affected ship. 30, 60 and 90 minutes of time at this cost, for two ship is equivalent to £17.65, £35.30 and £52.95.

Best Estimate of Costs

Although it is likely that vessel operators will choose the lowest cost option available to them in order to comply with the regulations, some operators may not be willing to make the upfront investment if, for example, they are not sure that they will continue to operate in the Baltic Sea Area for long enough for the investment in a STP to pay off. In these cases, their vessel will need to use port reception facilities. There may also be cases where the lowest cost option for a smaller passenger vessel is to use PRFs. Given this uncertainty, our best estimate of the costs to business is a mid-point between the high and low cost scenarios.

	Present Value Cost over 10 years (3.5% Discount Rate)	EANDCB
Low cost scenario	£860k	£99k
High cost scenario	£960k	£102k
Mid-point best estimate	£910k	£101k

BENEFITS (non-monetised)

Environmental

Reducing discharge of nutrients into the Baltic Sea will reduce eutrophication of the sea. This will reduce the environmental impacts of ships upon local marine ecosystems. There is no direct effect on the UK's marine environment so the effects are outside the scope of this assessment.

Compliance with MARPOL IV

By being compliant with the international regulations, UK flagged passenger ships may still continue to operate in Baltic waters. They have the option of complying with the regulations regardless of UK legislative requirements, and having compliance checked by the relevant authorities in the Baltic Sea ports they visit.

Option 2

In Option 2, the two ships affected would either be required to upgrade their STPs or discharge out their sewage in ports to PRFs, as in Option 1. Future amendments to MARPOL Annex IV would also automatically come into force in UK law.

COSTS

Upgrading STPs/ using PRFs and familiarisation costs (as in Option 1)

The monetised costs in Option 2 are the same as in Option 1

Future Amendments

There may be costs associated with future amendments to MARPOL Annex IV, which through ambulatory referencing will automatically come into force. The cost associated with future amendments cannot be monetised at this stage as there is currently no indication of what form future amendments may take. UK government and UK industry bodies will continue to be closely involved with development of future amendments at the IMO. It is also arguable that UK vessels would have incurred these costs whether they are put into legal force in the UK or not, given the commercial risks of delays and disruption from not being compliant when on international voyages.

Regular Post Implementation Reviews (PIR) will be undertaken to evaluate whether the use of ambulatory reference to MARPOL Annex IV has achieved its goal and is still valid, and also to estimate the costs and benefits of all the technical amendments enacted since this impact assessment.

BENEFITS

Environmental (as in Option 1)

Reducing discharge of nutrients into the Baltic Sea will reduce eutrophication of the sea. This will reduce the environmental impacts of ships upon local marine ecosystems. There is no direct effect on the UK's marine environment so the effects are outside the scope of this assessment.

Compliance with MARPOL IV (as in Option 1)

By being compliant with the international regulations, UK flagged passenger ships may still continue to operate in Baltic waters.

Future Amendments Implemented Through Ambulatory Referencing

The introduction of ambulatory referencing to MARPOL Annex IV into the replacement Regulations will:

- simplify the regulatory framework for both industry and regulatory users – currently a mixture of primary and secondary legislation is used to implement international maritime conventions;
- give legal clarity to operators – there will no-longer be disparity between national and international requirements;
- provide a level playing field between UK and foreign operators calling at UK ports – the automatic incorporation of amendments in legislation means that the UK will be able to enforce amendments as soon as they come into force internationally. Therefore, foreign ships visiting the UK that are not compliant with the latest international requirements could be detained;
- in the long term reduce burden on the MCA, Government lawyers and parliamentary time;
- ensure the UK's reputation, which would be threatened should the UK be identified during a future IMO audit for failing to meet its obligation to give effect to MARPOL, which was a finding of the previous audit; and
- safeguard the UK's influence at the IMO.

6 Wider Impacts

Small and Micro Business Assessment

Based on an analysis of the companies owning UK registered ships (as at August 2017), it is concluded that the UK companies affected by the MARPOL Annex IV amendments are large, multinational or subsidiaries of multinationals and would therefore fall outside of the scope of the small and micro business assessment.

Competition assessment

The new measures apply equally to all ships equally. Issues would not arise in respect of competition as MARPOL applies equally to all international ships.

Environmental & Carbon Impact

None of the options would have any adverse environmental or carbon impact. The amendments to MARPOL IV could have a positive impact on the environment as they should improve preventative sewage discharge measures. In addition, by reducing the amount of sewage discharge from ships, the cost in terms of an environmental impact in the Baltic sea may also reduce.

Equalities and Families

All options have been assessed for relevance, but the measures proposed are not going to have any variation in impact on different groups; an Equalities Impact assessment is therefore not required.

It is considered that there are no significant impacts on families.

Enforcement

There are no new penalties being introduced by these new measures as the existing offences and penalties are sufficiently broad to cover all requirements which fall under MARPOL Annex IV.

7 Post-implementation Review Plan

Review status: Please classify with an 'x' and provide any explanations below									
<input type="checkbox"/>	Sunset clause	<input checked="" type="checkbox"/>	Other review clause	<input type="checkbox"/>	Political commitment	<input type="checkbox"/>	Other reason	<input type="checkbox"/>	No plan to review
Rationale for PIR approach									
Will the level of evidence and resourcing be low, medium or high? (See Guidance for conducting PIRs)									
The level of evidence and resourcing for this review will be low. The Regulations implement MARPOL Annex IV, and [where applicable aspects of a number of EU Directives which echo the requirements of MARPOL IV.									
What forms of monitoring data will be collected?									
The review will include analysing data contained on the Ship Inspection and Surveys (SIAS) and THETIS databases to identify non-compliances with the requirements of MARPOL Annex IV Sewage established through Port State Control inspections.									
What evaluation approaches will be used? (e.g. impact, process, economic)									
Aspects of impact, process and economic evaluation processes will be used. The review will engage with industry and classification societies to better understand the actual costs experienced. The Maritime & Coastguard Agency (MCA) will check whether the shipping industry is complying with the new Regulations and, where possible, also whether they are having the desired effect on improving safety.									
How will stakeholder views be collected? (e.g. feedback mechanisms, consultations, research)									

Officials from the MCA regularly host and/or attend meetings with stakeholders – their feedback on whether measures have had the desired effect or problems encountered is sought as part of ongoing stakeholder engagement.

Annex 1 – Ambulatory References

Definition of ambulatory reference

An ambulatory reference for the purposes of this Impact Assessment is a reference in domestic legislation to an international instrument which is interpreted as a reference to the international instrument as modified from time to time (and not simply the version of the instrument that exists at the time the domestic legislation is made).

What does an ambulatory reference achieve?

Once an ambulatory reference to an international Convention, or part of an international Convention, is introduced into a Statutory Instrument (SI), new amendments to the Convention (or the referenced part of the Convention, if only part of it is referenced) will automatically become UK law. No additional SIs/ amendments to existing SIs will be required to bring such amendments into force.

Enabling Power to make Ambulatory Reference

On 26 March 2015, the Deregulation Act 2015 received Royal Assent. The Act introduced a new power to make ambulatory references to international instruments under a new section 306A of the Merchant Shipping Act 1995 (MSA 95). This power will only be used for “technical”, and therefore non-controversial, aspects of the Convention.

What assurances are in place to prevent undesirable amendments to international Conventions automatically coming into force?

1. A new SI must be created to introduce an ambulatory reference provision in relation to an international Convention. The suitability of the international Convention will be assessed (taking into consideration the nature of amendments and the likelihood of whether they will be controversial) prior to the use of the power being approved.
2. A Ministerial Statement will be made to Parliament in advance of any amendment to UK law being made by ambulatory reference.
3. Where the UK does not agree with a proposed amendment to an international Convention, the Secretary of State (SoS) may object to block to it amendments to International Conventions in order to prevent it coming into force with respect to which the UK does not agree. This facility will be available for exceptional circumstances; however, this “opt-out” it is not expected to be used frequently, if at all, because:
 - a. any UK arguments deemed necessary to shape the amendments will have been applied argued in the international negotiation stage;
 - b. the amendments, being of a technical nature, are not expected to be politically controversial;
 - c. the amendments, once agreed, will in any case be binding on the international community and therefore it will be necessary for UK ships wishing to operate internationally without hindrance to comply anyway.

Regulatory process supported by the Better Regulation Executive for Ambulatory Reference measures

A flow diagram of the agreed scrutiny process has been developed, in essence the process will require:

- an ambulatory reference provision to be included in secondary legislation which will follow the full Parliamentary and Regulatory processes;
- subsequent technical amendments during the international negotiation process, will continue to be subject to:
 - consideration of high level impacts
 - stakeholder engagement
- full Post Implementation Review to be undertaken to evaluate whether the policy has achieved its goal and is still valid, and also evaluate the costs and benefits of all the technical amendments enacted since the previous review (or impact assessment).

The proposed approach streamlines the traditional regulatory process and directs it where the greatest influence can be achieved, at negotiation stage. The principles of Better Regulation are still captured:

- **Alternatives to Regulation** – prior to work commencing on any proposal at the IMO, a case for action must be demonstrated against the following criteria: practicality, feasibility and proportionality; costs and benefits to industry, including legislative and administrative burdens; and alternatives to regulation.
- **Consultation** – industry is represented at the IMO through non-governmental organisations, which are heavily involved in early stage policy development, contributing to working and drafting groups where policy is designed, as well as participating in plenary where policy is examined. Industry representatives are invited to meetings hosted by the MCA prior to IMO sessions to assist with the development of the UK's negotiating position.
- **Assessment of Impact** – a high level consideration of impact is undertaken at proposal stage to inform the UK's negotiation position. Post Implementation Reviews will be used to assess the robustness of the original assessment and will be timed to ensure they can feed into negotiations for future rounds of amendments.