

DfT Regulatory Triage Assessment

Title of regulatory proposal	The Merchant Shipping (Prevention of Pollution from Noxious Liquid Substances In Bulk) Regulations 2018
DfT RTA number	00097
Lead DfT directorate/Agency	Maritime and Coastguard Agency
Expected date of implementation	15/02/2018
Origin	International
Date	13/07/2016
Lead Policy	David MacRae
Lead Economist	Shafiq Pandor
Departmental Triage Assessment	Low cost (fast track)

Rationale for intervention and intended effects

A proportion of cargo vessels that operate in UK waters carry noxious liquid substances (NLS) in bulk. Should maritime pollution occur from NLS, it could result in negative impacts on the environment, human health and economic activity. Without regulation, incentives for the shipping industry to ensure the best possible safety precautions are suboptimal since they do not incur the full social costs associated with such incidents, such as the environmental costs. The International Convention for the Prevention of Pollution from Ships (MARPOL) includes regulations for the control of pollution by NLS (MARPOL Annex II). Government intervention is required implement revisions to MARPOL Annex II into the UK law.

The policy objective is to minimise the risk of damage to the marine environment from NLS by implementing the revisions to MARPOL Annex II in UK law and therefore fulfilling the UK's international obligations to the IMO.

Viable policy options (including alternatives to regulation)

Doing nothing is not considered to be a viable option as this would mean that the UK would fail to comply with an international treaty to which it is a signatory.

The preferred option is to introduce the proposed Regulations to implement the revisions to MARPOL Annex II in UK law (Option 1). The revisions to MARPOL Annex II were adopted on 15/10/2004 and entered into force internationally on 01/01/2007. These revisions take into account both new scientific knowledge of chemical properties and their environmental impacts and improvements in technology, simplify MARPOL Annex II and encompass a new pollution categorisation system and criteria for categorising liquid substances. The revisions to MARPOL Annex II also revise stripping (tank cleaning) and discharge criteria. Implementing these as a new regulation is the preferred course of action as it would ensure the continued and increased safety of UK waters against the possibility of a pollution incident and enable the policy objective, outlined above, to be met.

Initial assessment of business impact

The additional costs for existing UK registered ships due to the revised MARPOL Annex II are estimated at up to £0.6 million. However, this is considered highly likely to represent an overestimate of the additional costs of the proposed Regulations to the UK. In particular, the MCA expect that the majority of vessels¹ which operate internationally are already complying with the requirements of the revised MARPOL Annex II and are thus already meeting the requirements of the proposed Regulations.

There could potentially be other costs for UK registered ships affected by the revised MARPOL Annex II as a result of the proposed Regulations, including those ships that do not already comply with the revised MARPOL Annex II (see Supporting Evidence).

In terms of benefits, the measure could potentially reduce the risk of harm to the marine environment, and the associated costs of such incidents. However, no evidence is available on how this risk would change, and the available evidence indicates that this risk is already low. The UK would meet its international commitments and maintain its reputation as a quality flag. It should help to ensure that UK registered ships are not penalised by other countries for not complying with the revisions to MARPOL Annex II.

One-in, Three-out / Business Impact Target

As this is an international measure and the UK is not going beyond the minimum international requirements, it is considered that this measure is a Non-Qualifying Regulatory Provision and therefore outside the scope of OI3O and the Business Impact Target.

Rationale for Triage rating

The costs of the measure are significantly below £1 million in its most expensive year, and is therefore considered a low cost measure.

Confirmation that the proposed measure is suitable for Fast Track

Policy sign-off:	Signature	Jonathan Simpson
	Date	14/07/2016
Economist sign-off:	Signature	Jonathan Saks
	Date	14/07/2016
Better Regulation Unit sign-off:	Signature	Chris Simon

¹ The MCA has not been informed of any UK-flagged vessels that have been detained at a non-UK port as being non-compliant against MARPOL Annex II.

	Date 14/07/2016
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Title: The Merchant Shipping (Prevention of Pollution from Noxious Liquid Substances In Bulk) Regulations 2018 IA No: DfT00355 RPC Reference No: Lead department or agency: Maritime and Coastguard Agency Other departments or agencies: Department for Transport	Impact Assessment (IA)			
	Date: 13/07/2016			
	Stage: Consultation			
	Source of intervention: International			
	Type of measure: Secondary legislation			
Contact for enquiries: David MacRae 023 80 329 392 david.macrae@mcga.gov.uk				
Summary: Intervention and Options			RPC Opinion: RPC Opinion Status	

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status
-£0.32m	-£0.32m	£0.0m	Not in scope	Non qualifying provision

What is the problem under consideration? Why is government intervention necessary?
 A proportion of cargo vessels that operate in UK waters carry noxious liquid substances (NLS) in bulk. Should maritime pollution occur from NLS, it could result in negative impacts on the environment, human health and economic activity. Without regulation, incentives for the shipping industry to ensure the best possible safety precautions are suboptimal since they do not incur the full social costs associated with such incidents, such as the environmental costs. The International Convention for the Prevention of Pollution from Ships (MARPOL) includes regulations for the control of pollution by NLS (MARPOL Annex II). Government intervention is required implement revisions to MARPOL Annex II into the UK law.

What are the policy objectives and the intended effects?
 The policy objective is to implement the revisions to MARPOL Annex II in UK law in order to minimise the risk of damage to the marine environment from NLS and fulfil the UK's international obligations to the IMO.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)
 Doing nothing is not considered to be a viable option as this would mean that the UK would fail to comply with an international treaty to which it is a signatory.

 The preferred option is to introduce the proposed Regulations to implement the revisions to MARPOL Annex II in UK law (Option 1). The revisions to MARPOL Annex II were adopted on 15/10/2004 and entered into force internationally on 01/01/2007. These revisions take into account both new scientific knowledge of chemical properties and their environmental impacts and improvements in technology, simplify MARPOL Annex II and encompass a new pollution categorisation system and criteria for categorising liquid substances. The revisions to MARPOL Annex II also revise stripping (tank cleaning) and discharge criteria. Implementing these as a new regulation is the preferred course of action as it would ensure the continued and increased safety of UK waters against the possibility of a pollution incident and enable the policy objective, outlined above, to be met.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: October 2021						
Does implementation go beyond minimum EU requirements?			N/A			
Are any of these organisations in scope?			Micro Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A		Non-traded: N/A	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: Date:

Summary: Analysis & Evidence

Policy Option 1

Description: Implement the revisions to MARPOL Annex II in UK law**FULL ECONOMIC ASSESSMENT**

Price Base Year 2016	PV Base Year 2016	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: -0.65	High: 0.0	Best Estimate: -0.32

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.0	1	0.0	0.0
High	0.6		0.0	0.6
Best Estimate	0.3		0.0	0.3

Description and scale of key monetised costs by 'main affected groups'

The additional costs for existing UK registered ships due to the revised MARPOL Annex II are estimated at up to £0.6 million. However, this is considered highly likely to represent an overestimate of the additional costs of the proposed Regulations to the UK. In particular, the MCA expect that the majority of vessels which operate internationally are already complying with the requirements of the revised MARPOL Annex II and are thus already meeting the requirements of the proposed Regulations.

Other key non-monetised costs by 'main affected groups'

1) There could potentially be other costs for UK registered ships affected by the revised MARPOL Annex II as a result of the proposed Regulations, including those ships that do not already comply with the revised MARPOL Annex II (see Evidence Base).

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	N/A	0	0
High	0		0	0
Best Estimate	0		0	0

Description and scale of key monetised benefits by 'main affected groups'

Given the limitations of the available evidence, none of the potential benefits identified in this impact assessment have been monetised.

Other key non-monetised benefits by 'main affected groups'

1.) It could potentially reduce the risk of harm to the marine environment, and the associated costs of such incidents. However, no evidence is available on how this risk would change, and the available evidence indicates that this risk is already low. 2.) The UK would meet its international commitments and maintain its reputation as a quality flag. 3.) It should help to ensure that UK registered ships are not penalised by other countries for not complying with the revisions to MARPOL Annex II.

Key assumptions/sensitivities/risks

Discount rate (%)

3.5%

The estimates of the costs presented in this IA are very sensitive to the data sources used in this analysis and the assumptions that have been made in this IA. Therefore, these estimates have been used for purely illustrative purposes and should be interpreted as indicative estimates of the order of magnitude of these costs. Due to the limitations of the available evidence base, it has not been possible to monetise some of the costs and benefits that have been identified.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m:
Costs: 0.0	Benefits: 0.0	Net: 0.0	

Evidence Base

1 Background

- 1.1 Shipping is an international industry and the regulatory framework must reflect this. The International Maritime Organization¹ (IMO) is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. The IMO has 171 Member States, 3 Associate Members and numerous Non-Governmental and Intergovernmental Organizations. Its main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and implemented.
- 1.2 The MARPOL Convention was adopted on 2 November 1973 at IMO, in response to a spate of tanker accidents in 1976-1977. The Convention contains measures in relation to the design and operation of ships, for the prevention of pollution from ships. The Convention, to which the United Kingdom is a signatory, provides an international regulatory regime governing the prevention of pollution from ships. It sets out criteria which parties are required to adopt including certain obligations, application, violations, etc.
- 1.3 Annex II of MARPOL contains measures to control operational pollution and reduce accidental pollution resulting from groundings and collisions from ships carrying Noxious Liquid Substances (NLS) in bulk, and has undergone various amendments. The new revised Annex II entered into force on 1 January 2007 and applies to all ships carrying NLS in bulk². It lays down specific requirements for ships carrying NLS in bulk including requirements in relation to design and construction, ship certification, the record of cargo operations, and the control of operational discharges. It also sets out inspection requirements for port states and requirements in relation to the provision of reception facilities for cargo residues from the stripping (i.e. emptying and cleaning) of cargo tanks. The Annex sets out guidelines for the categorisation of NLS based on the hazard profile established by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)³.
- 1.4 As a member of IMO, the UK is committed to introducing into national legislation those conventions and treaties to which it is a signatory, of which MARPOL Annex II is one. The UK therefore has a duty to amend existing legislation to reflect the changes which were made in 2004 and entered into force in 2007.
- 1.5 The changes to MARPOL Annex II have been made on the advice of GESAMP, who regularly convene to ensure that the most up to date scientific knowledge is transferred in to regulations to ensure the continued safety of the marine environment. Better scientific understanding of a range of chemicals and their interactions with the marine environment has led GESAMP to update information regarding the transport of dangerous and noxious goods. These have then been transferred in to the requirements of MARPOL Annex II to ensure that the knowledge is used to increase safety in shipping.
- 1.6 Technological advances and developments have also been taken into account in the revisions of MARPOL Annex II. Improvements in the construction of vessels and equipment used for the carriage of NLS have led to increased safety on board the vessels and during loading and unloading operations.

2 Problem under consideration and policy objectives

- 2.1 Industry does not face the full risk of the costs of pollution from NLS. This is because the full impact of pollution isn't solely paid by the owner/operator of the vessel 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

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

² Essentially chemical tankers and oil tankers, when carrying NLS – and also gas carriers when carrying certain liquefied gases, Offshore Supply Vessels carrying smaller quantities of such substances, and certain dry cargo ships carrying vegetable oils

³ This is the United Nations body of experts which lays down the principles by which chemical products are assessed.

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transport sector, as a result of accidents or due to illegal activity⁴. Without regulation, incentives for the shipping industry to ensure the best possible safety precautions are suboptimal since they do not incur the full social costs associated with such incidents, such as the environmental costs.

- 2.2 The shipping industry has been progressively regulated to reduce the risk of pollution incidents occurring. This has been successful in its aims, as the number and severity of pollution incidents occurring internationally has reduced with the introduction of the various elements of MARPOL. Pollution incidents do, of course, occur, but are now infrequent and are often of 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.
- 2.3 The specific problem that would be addressed by the proposed Regulations is how to prevent maritime pollution from NLS carried in bulk at sea.
- 2.4 The changes to MARPOL Annex II have been developed to keep abreast with current scientific knowledge and evidence regarding the potential impacts of NLS carried at sea. The changes take into account new scientific knowledge of the properties of the various liquid substances and their effect on the marine environment, and improvements in technology. As well as the re-evaluation of products, the revision encompassed the development of a new pollution categorisation system and criteria for assigning liquid substances to these new categories and the revision of stripping requirements and NLS discharge criteria. The revised Annex has also been simplified.
- 2.5 The global nature of the shipping industry requires an international response to problems that arise. The IMO acts as the body through which international agreements are made. To enforce the rules and regulations that are agreed internationally, the UK is required to introduce the international agreements domestically. The re-evaluation of liquid substances means that the existing UK Regulations are no longer acceptable as by adhering to the existing UK Regulations ships would be able to carry, without sufficient regulation, liquid substances that are now considered to be hazardous or substances now known to be more hazardous than previously believed to be. To ensure that all liquid substances that are considered hazardous are safely and efficiently transported, the proposed Regulations must be introduced.
- 2.6 DfT therefore intends that the proposed Regulations are introduced to ensure that the UK takes advantage of current scientific knowledge regarding the threat posed by NLS that are carried at sea and ensure that the UK coastline is afforded the best possible protection against the risk of a marine pollution incident occurring. However, it should be noted that there is no evidence currently available on how the amendments to MARPOL Annex II would affect the risk of a marine pollution incident occurring, and the available evidence indicates that this risk is already low.
- 2.7 The policy objective is to implement the revisions to MARPOL Annex II in UK law in order to minimise the risk of damage to the marine environment from NLS and fulfil the UK's international obligations to the IMO.

3 Description of options and issues considered

- 3.1 Doing nothing is not considered to be a viable option as this would mean that the UK would fail to comply with an international treaty to which it is a signatory. Failing to implement the amendments to MARPOL Annex II in UK law also has the potential to cause confusion when foreign flagged vessels, which have implemented the MARPOL Annex II amendments, come into UK ports and UK surveyors are still using the existing MARPOL Annex II regulations when carrying out inspections. This may hamper the effectiveness of the UK surveyor and port state control operations, although there is no evidence at present that this has been an issue to date. Further complications could also occur as future amendments are made to the Annex, which would mean even greater differences between the UK legislation and international regulations. In particular, this may lead to

⁴ European Commission Joint Research Centre (2009) 'External costs of Transportation Case Study: maritime transport. Available at: <http://publications.jrc.ec.europa.eu/repository/handle/111111111/7577>

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problems when conducting negotiations and policy in an international forum if the UK is not starting from the same position as other countries.

- 3.2 The only available policy option, as it is UK policy not to 'gold plate' international regulations unless there is justification to do so, is to introduce the proposed Regulations to do the minimum to implement the revisions to MARPOL Annex II in UK law (Option 1).
- 3.3 The proposed Regulations would govern the design construction, equipment, documentation and operational procedures, and would be applicable to all vessels carrying NLS, including UK registered ships, and non UK registered ships when in UK waters. They would also extend the keeping of cargo records and to regulate operational discharges, ensuring that essential data is recorded and operational discharges are made in a responsible manner to minimise pollution incidents and danger to the environment. These measures would ensure vessels under the UK flag are operating within internationally recognised standards and are adapting to new technological advances that ensure vessels continue to operate as safely as possible.
- 3.4 Vessels operating within UK waters would be forced to comply with the changes to MARPOL Annex II, which would ensure that the UK coastline and marine environment continues to be protected from the probability of a marine pollution incident. Although the existing UK Regulations protect the UK coastline, implementing the proposed Regulations would mean that new technologies and information regarding NLS is effectively used in the UK to ensure safety within the marine environment. The change in status of some liquid substances and more effective processes and equipment that would have to be taken into consideration, and used following the introduction of the proposed Regulations, would enable the UK to maximise its ability to protect its shores from rogue, substandard operators for whom safety is not a concern or high priority.
- 3.5 The proposed Regulations would ensure that the UK is in compliance with the International Convention to which the UK is a Party. By introducing a Statutory Instrument, the UK would be able to ensure that all vessels registered to the UK Flag to which MARPOL Annex II applies are obliged to meet the requirements laid down and thus allow them to operate internationally. It would also enable us to protect UK waters from non-compliant foreign flagged vessels which visit our shores. The reputation and quality of the UK Flag and of the UK government as a responsible Flag State would be maintained.
- 3.6 UK regulations have to ensure that, as vessels that are affected operate globally, the UK has the ability to regulate those ships no matter where they are in the world. Conversely, the UK must also be able to protect its waters and coastline from vessels that are regulated by other countries. The proposed Regulations have therefore been written to be double pronged – impacting on those vessels that operate under the UK flag and those vessels that operate in UK waters.
- 3.7 This approach would also ensure a 'level playing field' is achieved internationally as other flag states implement the same requirements on their flagged vessels and within their waters. This would ensure that no one country has a competitive edge by not having to implement the requirements of MARPOL Annex II.
- 3.8 The introduction of the proposed Regulations would also simplify UK domestic regulations regarding the carriage of NLS. In the interests of reducing the number of legislative proposals and limiting the burden of multiple sets of regulations and guidance documents, it is proposed to revoke, upon entry into force of the proposed Regulations, existing UK domestic regulations with respect to the carriage of NLS under Annex II of MARPOL, and replace them with the proposed Regulations. This would reduce the number of UK domestic regulations in this area and ensure that all of the UK domestic regulations with respect to the carriage of NLS under MARPOL Annex II are contained in a single set of Regulations. The existing UK domestic regulations which would be revoked are:
 - The Merchant Shipping (Dangerous or Noxious Liquid Substances in Bulk) Regulations 1996 – SI 1996 No.3010. Regulation 1 of these regulations revokes all previous regulations with respect to the implementation of Annex II.
 - The Merchant Shipping (Dangerous or Noxious Liquid Substances in Bulk) (Amendment) Regulations 1998 – SI 1998 No. 1153
 - The Merchant Shipping (Dangerous or Noxious Liquid Substances in Bulk) (Amendment) Regulations 2004 - SI 2004 No 930
 - The Merchant Shipping (Gas Carriers) Regulations 1994 – 1994 No. 2464

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- Merchant Shipping Notice M 1703/NLS1 – The Merchant Shipping (Dangerous or Noxious Liquid Substances) Regulations 1996.
- Merchant Shipping Notice M 1458 – Offshore

4 Costs and benefits of each policy option

Do Nothing

4.1 Doing nothing is not considered a viable option and so the costs and benefits in each policy option.

Policy option 1

Introduction

- 4.2 This IA assesses the additional costs and benefits of the proposed Regulations (Option 1) compared to the “Do Nothing” scenario; the “Do Nothing” scenario represents what would happen if the Government does not take any action. In line with the Better Regulation Framework Manual, a 10 year appraisal period has been used in this IA.
- 4.3 For the purposes of this impact assessment, the costs and benefits of the proposed Regulations (Option 1) have been monetised to the extent that is possible. Given the limitations of the available evidence base, it has not been possible to monetise some of the costs and all of the benefits of Option 1. Where it has not been possible to monetise a cost or benefit, a full qualitative description of the cost or benefit has been provided in this impact assessment.
- 4.4 Following the consultation, we will consider whether further analysis could be undertaken to attempt to improve the extent that the costs and benefits of Option 1 are monetised. To assist with this process, Consultees are invited to submit additional evidence on the costs and benefits of Option 1. Any additional evidence that is submitted will be taken into account when the impact assessment is updated after the consultation.

Costs [monetised]

Number of UK registered vessels that would be affected by the proposed Regulations

- 4.5 The MCA’s best estimate is that up to 106 vessels currently registered to the UK Flag could potentially be impacted by the revisions to MARPOL Annex II⁵. However, it is uncertain exactly how many of these vessels would be affected by the proposed Regulations in practice.
- 4.6 The MCA consider that the actual number of vessels that would be affected by the proposed Regulations is highly likely to be significantly less than 106. In particular, the MCA expect that the majority of affected vessels which operate internationally are already complying with the requirements of the revised MARPOL Annex II to ensure they can continue to trade internationally. This is because the changes to MARPOL Annex II came into force internationally on the 1st January 2007. As a result, any UK flagged vessels operating internationally should already be compliant in order to continue operating in international waters. Those vessels that are not already compliant and are operating internationally face the prospect of sanctions being imposed on them by those flag states that have implemented the changes to MARPOL Annex II. Whilst the number of vessels which may or may not be operating to the new standards is unknown, communication with industry suggests that, in order to ensure their vessels are able to operate internationally, it is likely that the owners of vessel affected by the changes have already made the changes that would be required by the legislation that is being proposed. If this is the case, the costs of complying with the revised MARPOL Annex II would have already been incurred by the owners and operators of these vessels, and these owners and operators would not incur these costs as a result of the proposed Regulations. However, there is of course a chance that some operators may be operating illegally within those foreign ports and have not been caught. In addition, there may also be a small number of vessels operating around the UK who are waiting for the proposed Regulations to come in before becoming compliant, although the MCA feel this is unlikely as to operate internationally vessels must be compliant.

⁵ This is based on the number of vessels in the UK flagged fleet which have the potential to carry Noxious Liquid substances as laid out in the revised MARPOL Annex II. It should be noted that this may be an overestimate. For example, oil product tankers are included in the total of 106 vessels that could be impacted by the proposed Regulations. However, oil tankers carry mineral oil products that are not covered by MARPOL Annex II.

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- 4.7 In order to reflect the uncertainty surrounding the number of vessels that would be affected by the proposed Regulations, the following assumptions have been made regarding the number of UK registered ships that could incur additional costs. The High estimate of the monetised costs assumes that additional costs would be incurred by 106 vessels as a result of the proposed Regulations, which is the best estimate of the maximum number of UK registered vessels that could potentially be impacted by the revised MARPOL Annex II. Given the uncertainty surrounding the number of UK registered ships that could incur additional costs as a result of the proposed Regulations, the Low estimate of the monetised costs assumes that additional costs would be incurred by no UK registered ships as a result of the proposed Regulations, which reflects the other extreme scenario; and the Best estimates of the monetised costs reflects the mid-point of the range between the High and Low estimates.

Table 1: Number of ships affected by proposals

Low	Best	High
0	53	106

Costs to the owners and / or operators of UK registered vessels relating to the need to update official documentation and undertake recertification [Monetised]

- 4.8 In preparing this impact assessment, the MCA have identified several costs relating to the need to update official document and undertake recertification that could be incurred by UK registered ships that are not currently complying with the requirements of the revised MARPOL Annex II, which it has been possible to monetise in this impact assessment. However, as discussed in Paragraph 4.6 of this impact assessment, it should be noted that the MCA expect that the majority of affected vessels have already incurred these costs.
- 4.9 Firstly, these vessels could potentially incur a one off cost through the need to update official documentation to meet the requirements of the revised MARPOL Annex II as a result of the proposed Regulations. This cost would be incurred through the need to replace cargo record books and possibly update plans / manuals, and is uncertain. Record books are currently priced at £6.60⁶. An industry estimate suggests that the cost of completely rewriting the associated plan / manual could be around £5, 100 per ship in 2016 prices on average⁷. However, it should be noted that this cost is uncertain as each plan / manual is operator and vessel specific, and the extent to which it would be necessary to completely rewrite a ship's plan / manual or merely to make amendments to an original plan / manual is not known. For the purposes of this impact assessment, it is assumed that this cost would be incurred within the first calendar year of the proposed Regulations being implemented as a simplify assumption.
- 4.10 Secondly, these vessels could potentially incur a one off cost due to recertification to meet the requirements of the revised MARPOL Annex II as a result of the proposed Regulations. The level of this cost is uncertain. The MCA estimate that the cost of recertification to meet the requirements of the proposed Regulations could be in the region of £1,000 per vessel in 2016 prices⁸. Following recertification to ensure compliance with the proposed Regulations, the MCA do not expect that there would be additional ongoing survey and certification costs compared to the existing survey regime. For the purposes of this impact assessment, it is assumed that this cost would be incurred within the first calendar year of the proposed Regulations being implemented as a simplifying assumption. Although it is possible for vessels to be unavailable for survey due to its operating schedule or not being in port when surveyors are available, this is a rare occurrence and it is estimated that a time frame of 1 year would be adequate to ensure all vessels are recertified as required.
- 4.11 On the basis of these assumptions, the total additional one-off costs for all UK registered ships of updating official documentation and recertification to ensure compliance with the revised MARPOL

⁶ Book Harbour (2016) Price of MCA Cargo Record Book for Ships Carrying Noxious Liquid Substances in Bulk - <http://www.bookharbour.com/mca-publications/cargo-record-log-book/>

⁷ An industry estimate was provided in 2009 estimated that the cost of completely rewriting the associated plan / manual could be around £4,500. This cost has been uplifted to 2016 prices using the latest HM Treasury's Gross Domestic Product (GDP) Deflators and then rounded to the nearest hundred.

⁸ The current rate for MCA surveyors is £94 per hour. The MCA estimate that recertification would take approximately 11 hours per vessel on average. Thus, the MCA estimate that the cost of recertification is around £1,000 per vessel on average.

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Annex II as a result of the proposed Regulations have been estimated at £0 (Low estimate) to around £0.6 million (High estimate), with a Best estimate of £0.3 million (2016 Price Base Year, 2016 Present Value Base Year). This range reflects the uncertainty surrounding the number of UK registered vessels that would incur additional costs as a result of the proposed Regulations.

Table 2: Estimated total one-off costs (£, 2016 prices)

	Low	Best	High
Record log books	£0	£350	£700
Updating plans/manuals	£0	£270,300	£540,600
Recertification costs	£0	£53,000	£106,000
Total	£0	£323,650	£647,300

- 4.12 It should be noted that these estimates are sensitive to a) the assumptions that have been made regarding the number of UK registered vessels that would incur additional costs as a result of the proposed Regulations and b) the estimated cost per vessel. For example, should the estimated cost per vessel be higher (lower), the Best and High estimates of the total additional costs would be higher (lower).

Costs [non-monetised]

Other potential costs to the owners and operators of UK registered vessels [Non-Monetised]

- 4.13 In preparing this impact assessment, the MCA have identified several other potential costs to the owners and operators of UK registered vessels which are discussed below.
- 4.14 Firstly, the introduction of the new categories suggests that the proposed Regulations could result in some vessels not being able to carry some cargoes. Theoretically, the impacts on the UK shipping sector appear to be uncertain (e.g. this could potentially result in a net cost or net benefit). However, any changes to trading patterns will already have impacted on the shipping industry as the changes to MARPOL Annex II came into force internationally on 1st January 2007. Communication with industry indicated that operators adapted to the changes by carrying suitable cargoes. It is not felt that the requirements unduly impacted upon the revenues of the operators or on trade patterns.
- 4.15 Secondly, further costs may be incurred due to the need for operators to familiarise themselves with the Regulations, and inform and train crews of their obligations under the proposed Regulations. As the MCA intends to produce Marine Information Notes to inform industry of the changes and potential impacts, the MCA expect that this cost would be negligible. However, it should be noted that no evidence is currently available on this issue. Therefore, this cost has not been monetised for the purpose of this assessment as a) the time that it would take to familiarise and train employees, and b) the number of businesses that would need to do this, are both very uncertain.
- 4.16 Thirdly, the MCA does not believe that the introduction of the proposed Regulations would result in any new administrative costs as any paperwork that needs to be completed to ensure compliance would have to have been completed under the existing UK Regulations. However, it is possible that the proposed Regulations could result in simplification benefits.
- 4.17 Fourthly, communication with industry has indicated that additional tank washing would not be required following the introduction of the changes to MARPOL Annex II. No other additional changes to operating practices have been identified. As such, the MCA expect that there would be no additional operating costs to industry as a result of implementing the proposed Regulations.

Costs to the MCA

- 4.18 As part of its commitment to port state control, the MCA inspects a proportion of ships calling at UK ports. The MCA considers that proposed Regulations would not involve any additional administrative costs for the MCA above those of the existing inspection programme since any new requirements would be incorporated into existing MCA in-house training.

Benefits

Potential environmental benefits

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- 4.19 The MCA considers that the introduction of the proposed Regulations could potentially benefit the UK due to their potential to help to minimise the number of pollution incidents around the UK coast. Such incidents could potentially negatively impact on UK coastal and marine environments; and could potentially inflict additional costs on local coastal governments and impair the economies of local maritime industries, including tourism. For example, individual shipping incidents can cause up to tens of millions of pounds worth of damage to the environment and to local communities and economies in extreme circumstances, although the cost of typical pollution incidents in UK waters is significantly lower. However, it should be noted that there is no evidence available on the extent that the proposed Regulations would impact on the risk of pollution incidents around the UK coast.
- 4.20 In 2004, the MCA published a research project titled 'Research Project 447. Chemical Spill Risk Assessment, Summary Report'. This report used a model which predicted 3.8 chemical pollution accidents per year, resulting in 0.42 actual spills. This suggests that the benefits of introducing the proposed Regulations would be likely to be relatively low as the probability of a chemical pollution incident is comparatively low. However, when considering the findings of Report 447, the age of the report must be taken in to consideration as it is likely that the number of vessels and trading patterns around the UK may have changed since the research was completed.
- 4.21 Due to the specific individual nature of pollution incidents, it is difficult to quantify the impact of the proposed Regulations due to the uncertainty surrounding the nature of future incidents. This is due to a number of factors, including the broad range of different chemicals and possible scenarios that could be involved in a MARPOL Annex II incident. Quantifying the impact of the introduction of the proposed Regulations is even more complex due to the difficulty of estimating the extent that the proposed Regulations would change the probability of an incident occurring. No evidence is currently available on this issue. Therefore, it has not been possible to quantify the potential benefits of the proposed Regulations in terms of the potential impacts on the environment.
- 4.22 The proposed Regulations would give the UK the ability to protect UK coastal shores and marine environment from those vessels that do not comply with the requirements of MARPOL Annex II. The MCA consider that this is vital as the potential severity of a pollution incident involving hazardous or noxious substances can be compared to that of an oil pollution incident, and may be worse depending on the type of chemical involved in the incident.
- 4.23 In the event that contraventions to the requirements of MARPOL Annex II occur, the introduction of the proposed Regulations would enable the UK to take enforcement action.

Reputation of UK flag

- 4.24 By introducing the proposed Regulations, the UK would continue to fulfil its international obligations. Ensuring the UK has ratified and implemented the changes to MARPOL Annex II indicates that it operates a quality flag and continues to work to improve the safety of lives at sea and ensure that vessels are operated safely around the UK coastline and in international waters. By implementing the changes to the Annex, the UK would continue to be viewed as a leader in maritime safety and regulation. This could potentially help to ensure that vessels remain as UK flagged vessels and may potentially attract new vessels on to the flag. However, it should be noted that there is no evidence available on this issue. Therefore, it has not been possible to monetise this potential benefit in this impact assessment.
- 4.25 In addition, the proposed Regulations should help to ensure that UK registered ships are not penalised by other countries for not complying with the revisions to MARPOL Annex II when operating internationally. However, it should be noted that a search of the Paris MOU (port state control) database, indicated that no UK flagged vessels had been detained for MARPOL Annex II related issues since the amendments to MARPOL Annex II came into force on 1 January 2007. Due to the uncertainty surrounding the magnitude of this potential benefit (e.g. the number of UK flagged vessels that could potentially be affected is uncertain), it has not been possible to monetise this potential benefit in this impact assessment.

Simplification benefits

- 4.26 Upon entry into force of the proposed Regulations, it is proposed to revoke a number of existing UK domestic regulations related to the carriage of NLS under MARPOL Annex II. This would reduce the number of UK domestic regulations in this area and ensure that all of the UK domestic regulations with respect to the carriage of NLS under MARPOL Annex II are contained in a single set of Regulations. This could make it easier and quicker for businesses to understand UK law in this area as they would only need to understand a single set of Regulations as opposed to needing

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to understand and link a number of documents as is the case at the moment. The value of any timing savings would be the opportunity cost of time at work, which is equal to the gross hourly wage plus non-wage labour costs. However, it should be noted that there is no evidence available on the extent of these potential benefits. Therefore, it has not been possible to monetise this potential benefit in this impact assessment.

5 OI30, EANDCB and Business Impact Target

- 5.1 As this is an international measure and the UK is not going beyond the minimum international requirements, it is considered that this measure is a Non-Qualifying Regulatory Provision and therefore outside the scope of OI30 and the Business Impact Target.
- 5.2 On the basis of the OI30 methodology, the Best estimate of the Net Cost to business per year (EANDCB) is estimated at £0m (when rounded to the nearest £100,000).

6 Wider Impacts

- 6.1 The wider social, environmental and economic impacts of the proposed policy options have been considered, together with possible unintended consequences. Where we have identified potential impacts, they are described in the following paragraphs:

6.2 Competition assessment

As the proposed Regulations would implement the internationally agreed MARPOL 73/78 Annex and would not go beyond the minimum international requirements, the MCA does not expect that the proposed Regulations would have a significant impact on competition.

6.3 Equalities

The MCA does not expect that the proposed Regulations would have an impact on equality.

6.4 Small and Micro Business Assessment (SaMBA)

The MCA does not expect that any of the ships that would be affected by the proposed Regulations would be owned and operated by small or micro businesses.

To flag in a vessel on the UK register, the owner/company has to demonstrate a link to the UK. The company does have to be UK registered, but in practice this could be just be a PO Box address registered at Companies House. The complicated nature of the maritime industry makes it hard to firmly establish the size of the company and proportion of that company that operates within the UK.

However, the MCA considers that the high value of the vessels involved and the operating costs of those vessels suggest that such firms are unlikely to be classified as small or micro businesses. In addition, any firms that have less than 250 employees in the UK often have much larger international parent companies backing them.

It is also a complicated exercise to ascertain how many people working within a UK registered company are actually employed in the UK, the large number of those employed will be on the vessels which are often crewed by different nationalities. In addition, the offices of these organisations are also not always located within the UK.

7 Enforcement, Sanctions and monitoring

- 7.1 Enforcement would be carried out by the MCA as part of its existing enforcement activities. The proposed Regulations would provide sanctions for non-compliance. This would include provisions for a fine not exceeding the statutory maximum (currently £5,000) on summary conviction in some cases, or on conviction on indictment, a fine not exceeding £25,000. In the case of a conviction in the Crown Court, the proposed Regulations would not impose any limit on the amount of the fine. These penalties are in line with those for other maritime pollution offences and are considered to be proportionate to the nature of the offences.

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- 7.2 Provisions would also exist whereby a ship may be detained in UK waters where a surveyor of ships suspects that a pollution offence has been committed.
- 7.3 The proposed Regulations would also provide for inspections to be carried out; this is in line with normal international maritime law. These inspections would be completed as a part of the MCA Port State Control Inspections.
- 7.4 Under the existing Regulations, the MCA is able to carry out a survey and inspection regime to ensure compliance to the requirements laid down in MARPOL Annex II. The proposed Regulations would also include the facility for the MCA (or appointed personnel) to survey and inspect vessels in accordance with MARPOL Annex II. There would therefore be no change in the work completed by the MCA to ensure compliance. As such, there would be no additional enforcement costs as a result of the proposed Regulations.

8 Summary of preferred option

- 8.1 UK flagged vessels are already in compliance with the majority of the requirements set out in the revised MARPOL Annex II. The main (monetised) impact of the revised MARPOL Annex II on the UK shipping industry would be the need to update record books and emergency plans. However, as the requirements of the revised MARPOL Annex II came into force internationally on 1st January 2007, the MCA expect that the majority of vessels which operate internationally have already made the necessary changes and are therefore already complying with the requirements of the revised MARPOL Annex II to ensure they can continue to trade internationally. This is supported by a search of the Paris MOU (port state control) database, accessed on 20th April, 2011, that indicates no UK flagged vessels have been detained for MARPOL Annex II related issues since the amendments came into force on 1st January 2007.
- 8.2 However, to ensure UK shores are protected and that enforcement can take place, should an infringement occur, it is imperative that implementation takes place as soon as possible. It is not foreseen that there should be any difficulties for UK or foreign flagged ships in complying with the proposed Regulations as most provisions are already implemented through the existing UK regulations.
- 8.3 Collection of data and monitoring information would take place through the survey and inspection regime. When a survey or inspection takes place the details and findings of the operation is recorded as a part of the MCA's normal operational practices. This data would be available for review and monitoring purposes.

9 Post-implementation Review Plan

- 9.1 The MCA's plans for the Post Implementation Review are set out below.

Basis of the review: [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review, or there could be a political commitment to review (PIR)];

MARPOL Annex II is constantly under review through the IMO. It is the aim of the IMO to ensure that information regarding transport and the transport of goods at sea is reviewed to ensure that the most up to date and technical information is used to ensure safety of life and the environment at sea. As a member of the IMO, the UK is committed to contributing to this process.

Review objective: [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern? or as a wider exploration of the policy approach taken? or as a link from policy objective to outcome?]

The objective would be to assess whether MARPOL Annex II and therefore the proposed Regulations are having the intended effect and incorporate the most up to date and appropriate advice and direction to those involved in the shipping of hazardous and noxious substances in bulk. The review would also assess the level of compliance to the requirement laid down within the proposed Regulations.

Review approach and rationale: [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]

The implementation of the proposed Regulations would be reviewed domestically through the MCA's normal contact with industry and NGO groups at regular stakeholder meetings. In addition, the UK is active in

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ongoing work within the international community to tackle pollution from shipping both within the IMO's Marine Environment Protection Committee structure and through other UN and EU initiatives. The UK will take part in the wider, international review of MARPOL Annex II as a member of IMO and as such will collate government and industry views on MARPOL Annex II and therefore the new regulations. International liaison through the IMO BLG (Bulk, Liquids and Gases) committee will review the effectiveness of the changes to MARPOL Annex II. This committee involves international delegates from Governments, NGO's and other interested parties. As a signatory of MARPOL, a UK delegation attends BLG meetings and contributes to the discussions and review process which takes place.

Baseline: [The current (baseline) position against which the change introduced by the legislation can be measured]

Archive records will be used to assess the current level of NLS pollution incidents occurring in UK water and those involving UK flagged vessels.

Success criteria: [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]

The success of the proposed Regulations would be measured as a function of the level of compliance and the number of marine pollution incidents involving noxious substances in bulk.

Monitoring information arrangements: [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]

The MCA's existing survey and certification regime would provide the monitoring arrangements, and along with the UK pollution reporting system, would ensure the collection of data to ascertain the success of the proposed Regulations. This data would be used to formulate future positions on this policy issue both domestically and internationally.